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As general superintendent, R. B. Whyte is responsible for every operation in the Macwhyte plant. "Quality, rather than tonnage, has always been our first aim in making Macwhyte Wire Line," explains "R. B."

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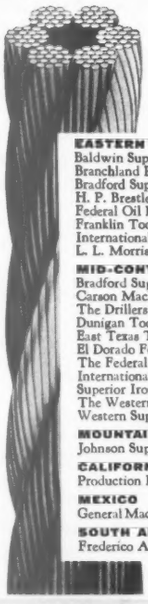

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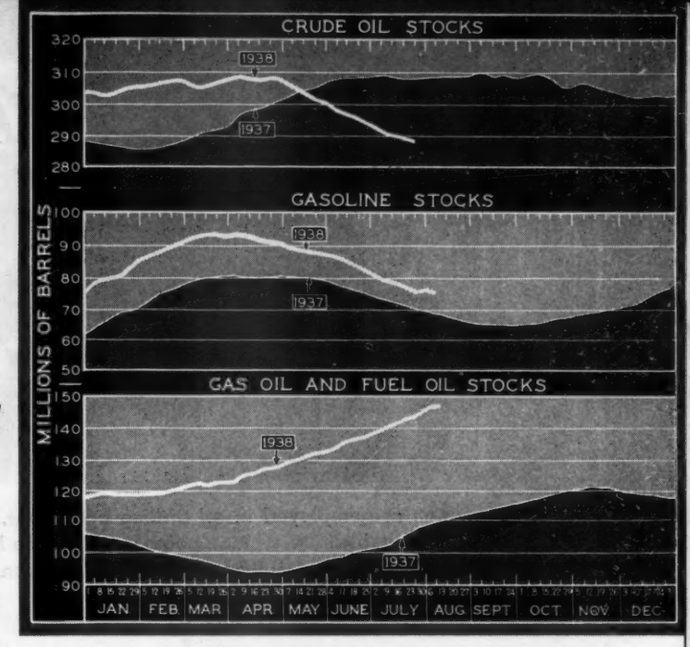
THE ROTARY LINE WITH THE INTERNAL LUBRICATION

Trends

Several Changes of Local Significance Feature Operations


CRUDE OIL STOCKS
GASOLINE STOCKS
GAS OIL AND FUEL OIL STOCKS
1938
1937
MILLIONS OF BARRELS
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

A PANORAMIC view of the oil industry over the past week presents a variety of developments, some of which appear to be in conflict. On the West Coast there was additional evidence that California is losing part of its market to the Orient, a situation brought about largely through the reduced purchases of Japan. This development, due to the size of the outlet involved, is important to western operators. Its possible significance to the industry generally is indicated in the increased coastwise and export shipments to the east through the Panama Canal. The California fuel oil market is particularly weak.

CRUDE PRODUCTION *3,314,501 barrels daily average—down 1,389. One year ago 3,668,609 barrels.*

CRUDE STOCKS *287,585,000 barrels as of July 23—down 1,727,000. One year ago—307,139,000 barrels.*

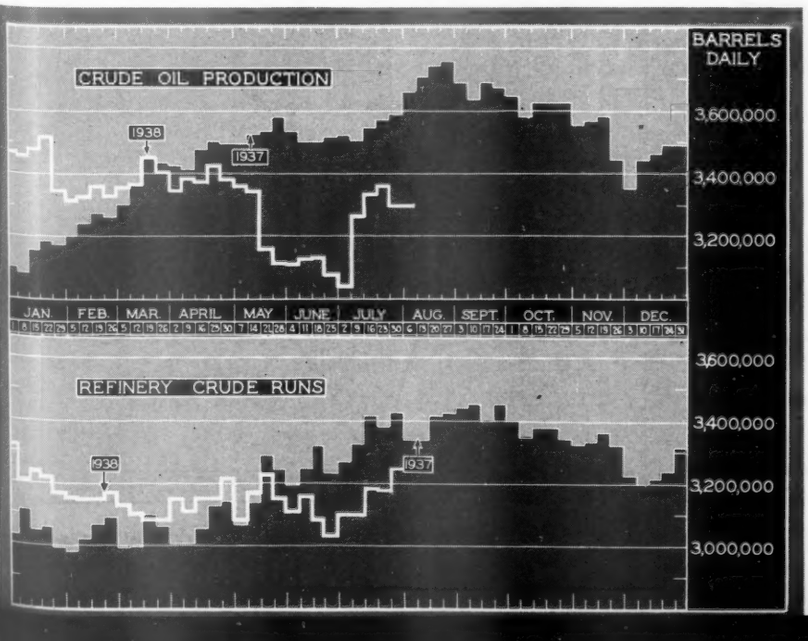
GASOLINE STOCKS *75,380,000 barrels as of August 6—down 1,484,000. One year ago—69,216,000 barrels.*

GAS AND FUEL OIL STOCKS *144,699,000 barrels as of August 6—up 405,000. One year ago 108,597,000 barrels.*

REFINERY RUNS *3,215,000 barrels daily week ending August 6—down 25,000. One year ago 3,340,000 barrels.*

The East Texas threat of a week ago has not become critical due to temporary and permanent provisions made to take care of unconnected wells. At the same time East Texas crude is offered to foreign and coastwise buyers at Gulf Coast shipping points at prices which are 10 or more cents per barrel under the posted field prices plus the normal transportation and loading charges. There are Louisiana Gulf crudes, according to reports, which are offered loaded in tankers under the market.

In Kansas the matter of increased markets for crude oil produced in that state has become a political issue with the present administration insisting that means be devised to find additional outlets among the major buyers.



In the middle western states, where more than 20 per cent of this country's gasoline is consumed, a number of companies have increased gasoline tank-wagon prices, an advance said by its supporters to be needed to cover refining, transportation and marketing costs, including a justification for the present posted prices for Mid-Continent crude oil. With the largest refiner and marketer in that territory so far refusing to meet the advances, other companies may be compelled to return to their former schedules.

In the same area, a pipe line subsidiary of a major refining and marketing organization posts two prices for Centralia, Ill., crude—a low price for the congested producing area and a higher schedule for the rest of the field. This unusual procedure is explained as due to price-cutting in part of the field.

Finally, while reports of gasoline price wars increase, several marketing companies in New York City attempt to cope with the situation there through application of a state fair trade act designed to give manufacturers price control in sale of their branded products.

Crude oil production for the industry as a whole continues to be maintained within the estimated demands for August. Recent increases in crude runs to stills explain the situation in which gasoline stock reduction data have been disappointing with no general strength in the motor fuel market.

DAILY AVERAGE PRODUCTION FOR WEEK

	Aug. 6, 1938	Bur. Mines Aug. est.	Aug. state allowable	July 30, 1938
Oklahoma City	106,775	.....	.....	101,675
Fitts	38,500	.....	.....	39,750
Remainder of State	277,625	.....	.....	281,200
Total Oklahoma	422,900	529,700	428,000	422,625
East Texas	440,100	.....	.....	439,585
West Texas	219,949	.....	.....	218,693
North Central Texas	107,297	.....	.....	107,798
Texas Panhandle	73,397	.....	.....	72,356
East Central Texas	99,901	.....	.....	100,424
Gulf Coast Texas	344,599	.....	.....	344,715
Southwest Texas	106,550	.....	.....	108,579
Total Texas	1,391,793	1,377,800	1,614,805	1,392,150
North Louisiana	81,470	.....	.....	82,490
Gulf Coast Louisiana	180,350	.....	.....	186,936
Total Louisiana	261,720	256,100	256,712	269,426
California	651,150	649,300	610,000	650,250
Kansas	151,725	169,300	165,500	153,975
Arkansas	54,950	53,900	.....	57,080
Illinois	54,656	45,800	.....	53,238
Michigan	51,567	60,000	.....	51,106
Eastern fields	97,440	102,300	.....	93,220
New Mexico	107,000	112,300	.....	101,600
Rocky Mountain area	69,600	81,600	.....	71,220
Total United States.	3,314,501	3,438,100	.....	3,315,890

Thousands of men are employed in oil drilling operations. Above is a typical crew on a large portable rotary rig making a test for the Hancock Oil Co. and designated as No. 1 Sherer-Dicks, near Huasna, Calif.

Employme
Oil Indus

WASHINGTON, D. C., Aug. 8.—When the temporary national economic committee, the monopoly probe, gets around to that phase of its investigations dealing with price and employment trends it will be forced to give the oil industry a gold star for social deportment.

Figures of the Bureau of Labor Statistics show that the wholesale prices of petroleum products are lower than those of any major commodity group, monopoly or no monopoly, that employment has been maintained far above the average of other industries, that working hours are stabilized well witihin the range which the New Deal considers socially desirable, and that hourly and weekly earnings of employes are well above the general industrial level.

The tables and charts printed in connection with this article tell the story better than words. They are all taken from official publications of the B.L.S.—statistics which are universally used in all price and employment studies. Although they are published by the bureau every month, their recapitulation is particularly interesting at this time because of the announced intention of the monopoly committee to inquire into the effect on employment and prices of alleged monopolistic practices and financial controls in industry. Whatever aspects of monopoly the committee may presume to find in the oil industry, it can scarcely charge that employes or the purchasing public have suffered as a result when the oil industry is compared with the figures for other major industrial groups.

Table 1 gives index numbers of the volume of employment in petroleum refining compared with all manufacturing industries covered by the bureau's monthly statistics, petroleum refining, of course, being a part of the total figure. The average number of employes during 1923, 1924, and 1925 is taken as 100 in each column. Only once since then, during the depression year of 1932, did employment in petroleum refining drop below that level, and at that time the general index stood at 98.7. Currently the refinery employment index is around 118, while that for all manufacturing industries hovers around the upper 70's.

A similar story is told by Table 2, pay rolls, which shows that refinery wages have not only kept pace with employment but have gone up

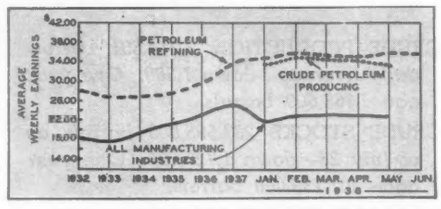
TABLE 1—EMPLOYMENT

	Petroleum refining (1923-25=100)	Crude petroleum producing (1929=100)	All manufacturing industries (1923-25=100)
1923	103.0	....	104.1
1924	96.1	....	96.4
1925	100.9	....	99.5
1926	110.8	....	101.3
1927	109.9	....	98.9
1928	104.7	....	98.7
1929	124.4	100.0	104.7
1930	124.9	87.4	91.3
1931	106.2	65.7	77.3
1932	98.7	55.3	65.5
1933	106.5	62.2	72.0
1934	118.3	77.7	82.5
1935	116.7	74.9	86.0
1936	118.3	72.9	91.9
1937	123.7	76.5	99.3
1938:			
January	119.3	75.3	82.2
February	118.2	74.2	82.3
March	117.7	73.6	81.7
April	117.5	73.8	79.6
May	117.4	73.2	77.4
June	117.6	*72.9	75.8

*Preliminary, subject to revision.

TABLE 2—PAYROLLS

	Petroleum refining (1923-25=100)	Crude petroleum producing (1929=100)	All manufacturing industries (1923-25=100)
1923	102.3	....	103.3
1924	94.6	....	96.0
1925	103.1	....	100.7
1926	112.7	....	103.7
1927	111.9	....	101.7
1928	108.3	....	102.4
1929	129.2	100.0	109.1
1930	130.4	85.9	88.5
1931	105.8	61.7	67.4
1932	87.5	44.1	46.4
1933	88.4	44.1	49.4
1934	100.3	56.9	62.9
1935	105.6	57.9	71.3
1936	112.4	58.6	82.4
1937	137.0	68.2	98.0
1938:			
January	134.7	68.2	71.7
February	137.1	69.6	73.2
March	136.0	68.0	73.3
April	133.8	68.0	70.7
May	138.4	66.8	69.2
June	136.6	67.6	67.2

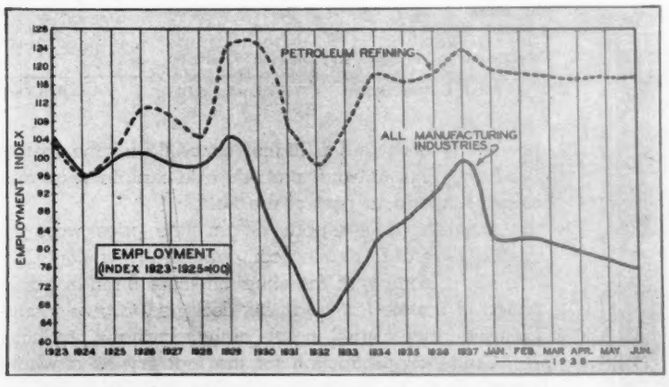


Average weekly earnings of men engaged in the refining and producing branches compared with all industries

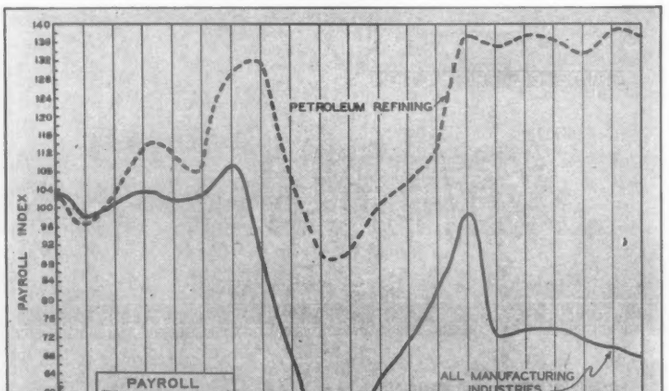
TABLE 3—AVERAGE WEEKLY EARNINGS*

	Petroleum refining	Crude petroleum producing	All manufacturing industries
1932	$28.22	.....	$18.12
1933	26.46	.....	17.57
1934	26.72	.....	19.14
1935	27.81	.....	21.06
1936	29.36	.....	22.82
1937	33.72	.....	25.14
1938:			
January	34.28	$33.80	21.89
February	35.23	34.88	22.30
March	34.88	34.32	22.46
April	34.57	34.28	22.28
May	35.78	33.48	22.17
June	35.26	.....	.....

*Average weekly earnings are computed from figures furnished by all reporting establishments. Average hours and average hourly earnings are computed from data supplied by a smaller number of establishments as all reporting firms do not furnish man-hours. The figures are not strictly comparable from month to month because of changes in the size and composition of the reporting sample.


EMPLOYMENT INDEX
PETROLEUM REFINING
ALL MANUFACTURING INDUSTRIES
EMPLOYMENT
(INDEX 1923-1925=100)
1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 JAN. FEB. MAR. APR. MAY. JUN.
1938

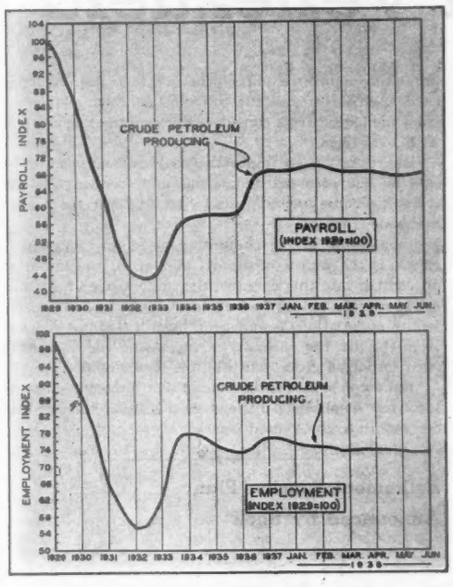
Employment in refining has been better than in the average of all manufacturing industries


PAYROLL INDEX
PETROLEUM REFINING
PAYROLL
(INDEX 1923-1925=100)
ALL MANUFACTURING INDUSTRIES
1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 JAN. FEB. MAR. APR. MAY. JUN.
1938

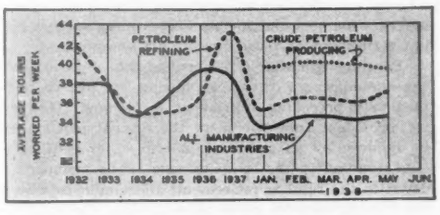
Refining pay rolls compared with other industries on basis of 1923-1925 equals 100 (right)

...ent Record of ...stry Unique

By HENRY D. RALPH


PAYROLL INDEX
CRUDE PETROLEUM PRODUCING
PAYROLL (INDEX 1929=100)
1929 1930 1931 1932 1933 1934 1935 1936 1937 JAN. FEB. MAR. APR. MAY JUN.
1938
EMPLOYMENT INDEX
CRUDE PETROLEUM PRODUCING
EMPLOYMENT (INDEX 1929=100)
1929 1930 1931 1932 1933 1934 1935 1936 1937 JAN. FEB. MAR. APR. MAY JUN.
1938

Pay rolls and employment have been stable and high in the producing branch of the oil industry


AVERAGE HOURS WORKED PER WEEK
PETROLEUM REFINING
CRUDE PETROLEUM PRODUCING
ALL MANUFACTURING INDUSTRIES
1932 1933 1934 1935 1936 1937 JAN. FEB. MAR. APR. MAY JUN.
1938

Hours of labor in the oil industry

TABLE 4—AVERAGE HOURS WORKED PER WEEK*

	Petroleum refining	Crude petroleum producing	All manufacturing industries
1932	41.8	46.1	37.9
1933	37.9	45.2	37.9
1934	34.9	36.2	34.7
1935	35.0	...	36.6
1936	35.8	...	39.1
1937	43.2	...	38.5
1938:			
January	35.3	39.5	33.2
February	36.4	40.1	34.3
March	36.2	40.2	34.5
April	36.0	39.9	34.2
May	37.0	39.4	34.4
June	...	...	...

*Average weekly earnings are computed from figures furnished by all reporting establishments. Average hours and average hourly earnings are computed from data supplied by a smaller number of establishments as all reporting firms do not furnish man-hours. The figures are not strictly comparable from month to month because of changes in the size and composition of the reporting sample.

faster, quite in contrast with the situation in industry as a whole. Refinery wages are now 136 per cent of the Coolidge prosperity era, whereas they are only 70 per cent for all industry.

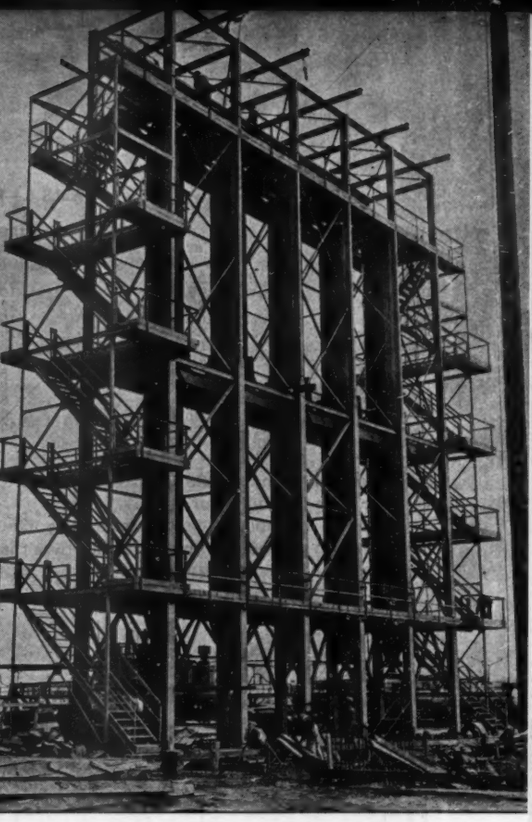
Leaving index numbers and coming to actual dollars and cents, Table 3 shows the average size of the refinery worker's pay envelope as far back as the Bureau of Labor Statistics has complete figures. Even during the worst years of the depression it was higher than the average has ever been for workers in other manufacturing industries. It has been rising since 1933, and while the percentage increase has not been as great as the general average, the refinery pay envelope is still much fatter than most.

The length of the industrial working week has been a primary concern of the New Deal administration which has systematically attempted to shorten it by legislation. The inference has been drawn that the industry with the shortest working week is the best from a social standpoint, and that the shorter the week the more people will be employed. However, a great many industries would be delighted if they could guarantee their employes a minimum of 30 or 40 or some other fixed number of hours per week throughout the year, but the sad fact is that when industry is viewed as a whole most plants are unable to operate an average of 40 hours per week, or per shift, throughout the year. Table 4 shows that the average hours worked per week in petroleum refineries is slightly greater than that in all manufacturing industries, but instead of indicating that refineries are sweatshops it shows that refinery crews get steadier work, month in and month out, than workers in most other plants.

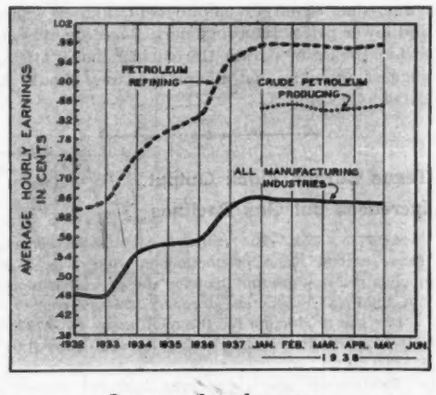
Hourly Earnings

Hourly earnings, shown in Table 5, also show that most other industries have a long road to travel before they can tell their employes that they are almost as well off as though they were working in a refinery.

Employment has gone up, pay rolls have gone up, but has this cost been passed on to the dear old consumer? Quite the contrary, it is revealed in Table 6, also compiled from official B.L.S. statistics. For several years the wholesale price of representative petroleum products has been lower than the average prices of any other major group of commodities, using 1926 averages as a standard of comparison. The column for "Petroleum products" is actually a subgroup under "Fuel and lighting," but space will not permit printing the figures for all subgroups of this and other major classifications compiled by the bureau. Other subgroups under "Fuel and lighting" are anthracite coal, bituminous coal, coke, electricity, and gas, and petroleum products currently have a much lower price index than any of these, based on 1926 figures. In fact, there is not a subgroup on the entire list with a price index for 1937 anywhere near as low as that for petroleum products with two exceptions, crude rubber at 40.5 and silk and rayon at 32.5, and



Sometimes refineries employ more men on construction than in operation work. Above is a construction view taken at Watson, Calif., where the Richfield Oil Corp. is constructing a $5,000,000 plant. This shows the reaction chambers for a polymerization unit


AVERAGE HOURLY EARNINGS IN CENTS
PETROLEUM REFINING
CRUDE PETROLEUM PRODUCING
ALL MANUFACTURING INDUSTRIES
1932 1933 1934 1935 1936 1937 JAN. FEB. MAR. APR. MAY JUN.
1938

Average hourly wages

TABLE 5—AVERAGE HOURLY EARNINGS*

(Figures are in cents)

	Petroleum refining	Crude petroleum producing	All manufacturing industries
1932	63.8	69.2	46.5
1933	65.5	62.8	46.0
1934	75.0	77.9	54.8
1935	80.1	...	56.8
1936	82.7	...	57.5
1937	94.5	...	64.3
1938:			
January	97.8	84.3	66.3
February	97.6	85.4	65.6
March	97.0	84.0	65.5
April	96.8	84.3	65.2
May	97.5	85.2	65.0
June	...	...	...

*Average weekly earnings are computed from figures furnished by all reporting establishments. Average hours and average hourly earnings are computed from data supplied by a smaller number of establishments as all reporting firms do not furnish man-hours. The figures are not strictly comparable from month to month because of changes in the size and composition of the reporting sample.

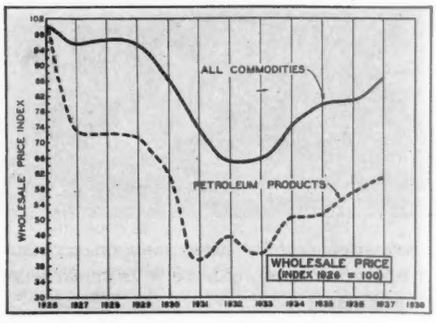
TABLE 6.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS OF COMMODITIES

(1926 = 100)

Year—	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Petroleum products	Chemicals and drugs	Metals and metal products	Building materials	House furnishing goods	Miscellaneous	All commodities
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	99.4	96.7	107.7	95.6	88.3	72.7	96.8	96.3	94.7	97.5	91.0	95.4
1928	105.9	101.0	121.4	95.5	84.3	72.0	95.6	97.0	94.1	95.1	85.4	96.7
1929	104.9	99.9	109.1	90.4	83.0	71.3	94.2	100.5	95.4	94.3	82.6	95.3
1930	88.3	90.5	100.0	80.3	78.5	61.5	89.1	92.1	89.9	92.7	77.7	86.4
1931	64.8	74.6	86.1	66.3	67.5	39.5	79.3	84.5	79.2	84.9	69.8	73.0
1932	48.2	61.0	72.9	54.9	70.3	45.4	73.5	80.2	71.4	75.1	64.4	64.8
1933	51.4	60.5	80.9	64.8	66.3	41.0	72.6	79.8	77.0	75.8	62.5	65.9
1934	65.3	70.5	86.6	72.9	73.3	50.5	75.9	86.9	86.2	81.5	69.7	74.9
1935	78.8	83.7	89.6	70.9	73.5	51.3	80.5	86.4	85.3	80.6	68.3	80.0
1936	80.9	82.1	95.4	71.5	76.2	57.3	80.4	87.0	86.7	81.7	70.5	80.8
1937	86.4	85.5	104.6	76.3	77.6	60.5	83.9	95.7	95.2	89.7	77.8	86.3
April 1938	67.8	71.9	93.0	66.5	77.2	57.5	77.5	96.3	91.2	87.3	73.4	78.7

both the rubber and textile industries have been very much in the dumps of late.

As shown by Table 6, the wholesale price index for petroleum products fell much farther than that for all commodities during the depression of 1931-



Trend of wholesale prices for oil compared with all commodities

33, and since then has not climbed as rapidly; it is now around 60, while other commodities average above 80.

When the New Dealers talk about the need for redistribution of wealth, they have in mind federal laws and industrial policies which will give more people a share in the profits of the industrial machine, that is, larger employment, higher wages, and lower prices for consumers. Based on this criterion, the figures of the Bureau of Labor Statistics suggest that the petroleum industry should be listed as Exhibit A.

Texas Carbon Black Output Increases But Gas Declines

AUSTIN, Tex.—The railroad commission reported Texas carbon black production in June was 55,000 pounds per day greater than for the preceding month. but total gas production dropped 3.72 per cent.

Dry gas production for the month was 1,735,222,000 feet and casinghead gas withdrawals aggregated 1,047,-725,000 feet.

Thirty-seven plants produced 1,065,742 pounds of carbon black daily, or an average of 1.40 pounds per 1,000 feet of gas processed. Gasoline plants extracted 2,248,116 gallons or 1.07 gallons per 1,000 feet processed.

Distribution of all gas included 34.74 per cent to pipe lines for light and fuel; 27.33 to carbon plants; 15.99 to lease operations; 4.74 extraction loss in gasoline plants, and 3.6 for repressuring wells.

Canadian Gas Production Shows Decrease

Ottawa, Ontario.—Natural gas production marketed from all Canadian fields in May totaled 2,127,894,000 feet, compared with 2,928,521,000 feet in April and 1,-866,000,000 feet in May, 1937. For the first five months of 1938 the output totaled 16,268,388,000 feet against 14,626,000,000 feet in the same period last year.

Imports of mixed (natural and artificial) gas into Canada in May were 9,409,000 feet worth $6,061 against 10,385,000 feet worth $6,633 in April.

Protest Reducing Taxes on Oil From Venezuela

WASHINGTON, D. C.—Russell B. Brown, general counsel of the Independent Petroleum Association of America, has presented to the committee on reciprocity information a statement opposing any reduction of the excise tax on petroleum imports in the negotiations of a trade agreement with Venezuela. Mr. Brown said: "This trade agreement, so far as concessions by the United States are proposed, is primarily concerned with petroleum. Exclusive of petroleum and certain items already on the free list, only 3 per cent of the total value of our present imports from Venezuela are listed for tariff negotiations. Approximately 50 per cent of the current oil imports from Venezuela are controlled and imported by a single American company. The present excise tax on petroleum products has been one of the bases on which the oil-producing states have built a conservation program which has stimulated exploratory work, increased employment and purchasing power, added to the nation's oil reserves, prevented monopoly, encouraged competition and added substantial amounts to the revenues of local communities, states and the federal government."

He pointed out that the states had developed conservation policies in cooperation with the federal government and that these would be seriously handicapped by a reduction in the excise taxes encouraging increased importations of petroleum. "In addition to those who are directly employed by the industry itself, workers engaged in the production of the many millions of dollars' worth of supplies and equipment required by the industry are interested in its continued stability which would be threatened by this new proposal. Furthermore, the purchasing and consuming power of a very large portion of the population in the oil states is intimately connected with the well-being of the oil industry. Anything which has an adverse effect upon the petroleum industry would constitute a serious blow to the financial interests of the country.

"The favored nation policy could automatically extend the reduction of these excise taxes to other nations producing oil when the necessary conditions had been met. This would mean that our markets would be open to unlimited quantities of foreign oil produced in other countries without restraint at the time when the domestic petroleum industry and the oil-producing states are making strenuous efforts to hold production within the limit of demand."

Senator Arthur Capper of Kansas protested in a letter to Secretary of State Cordell Hull the granting of a "reduced excise tax on tariff duties on imports of crude petroleum and fuel oil from Venezuela."

He said he had received messages from a number of Kansas independent oil producers, and from the Kansas Independent Oil and Gas Association, expressing concern over the proposed trade agreement.

The Venezuelan oil industry largely is owned by American capital, the senator said, "so there would be no reciprocal trade advantages," and it would be "a heavy blow to the oil industry in the United States" if the excise tax on imports were to be reduced.

Representative Jennings Randolph of West Virginia urged the committee on reciprocity information to strike crude petroleum and fuel oil derived from petroleum from the list of items considered in pending negotiations with Venezuela.

Representing an important coal-producing state, he said he had received "numerous and frequent" letters from his constituents urging him to fight for higher taxes on fuel oil.

In a letter to the committee he said: "Since Venezuela is the source of almost half of all the imported oil coming into this country, the importance of striking crude petroleum and fuel oil from the list of items subject to negotiations is apparent. And if it is not stricken from the list, the necessity of increasing the duty upon such imported crude and fuel oil seems obvious."

Randolph said it is "estimated that imported oil alone last year displaced a little over a million tons of coal per month in the United States."

Retirement Pension Plan Announced by Shell

A retirement pension plan for the 27,500 employes of Shell Petroleum Corp. in the United States and Canada was announced in St. Louis last Friday by Alexander Frazer, president of the corporation.

The plan, designed to round out social benefits previously in force, will be retroactive to January 1, 1938. Pensions will be provided by the several Shell companies without contribution by employes. Retirement ages of 60 years for men and 55 years for women are specified, but retirement at those ages is not compulsory.

Pensions equal to 40 per cent of the employes' average annual wages or salaries during the five years immediately preceding retirement is planned. However, for provident fund members the annual pension will be reduced by an amount equal to 4 per cent of the sum standing on the company side of the member's account in the fund at retirement; and employes who receive social security pensions shall have the Shell pension adjusted accordingly.

Employes completing 20 or more years of service on attaining normal retirement age will be eligible to retire with full pension. Proportionate pensions will be provided for those who reach retirement age before being in service 20 years. The plan also includes pension provision for those who retire before the normal age due to ill health, disability or other acceptable reasons. No pension will exceed $6,000 a year. The company reserves the right to terminate, suspend or modify the plan, but such action will not affect obligations at the time to those who have been retired or who have qualified for pension under the plan.

Magnetic Storm

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report moderate magnetic storm began at 3 p.m. August 3 and ended at 4 a.m. August 5, central standard time.

Geologist Has Optimistic View of Oil Possibilities in Illinois

By DORSEY HAGER
Consulting Geologist, Centralia, Ill.

After the boom of 1937, so many oil men left Illinois with curses that there is a satisfaction in seeing them return bringing new faces with them. Areas were damned with one dry hole and leases surrendered which cooler heads have picked up. Western Illinois has scarcely been scratched. The new fields that came in at the end of the year 1937—Dix, Beecher City and Centralia all stimulated new activity. Now comes the Lake Centralia field of the Texas Co.—Avena, another dome on the Beecher City high, and soon others will be popping in on the west side. In the basin, the new Olney pool, the Flora pool, the Texas pool in southern Wayne County and further development at Cisne are merely forerunners of what is going to happen. A glance at a map of the state shows how few are the new oil fields, and how large an area there is yet to prospect.

There are numerous dry holes, but not as many as Oklahoma and Kansas had in 1914, when I first reached Tulsa, and what happened there is going to be repeated in Illinois.

The McClosky area in the basin, where wells around 3,000 feet in depth are the rule, will be played more intensively as more subsurface data develops, but the interesting plays now are to find the shallow Chester sand plays—Stein, Benoist and strays at depths under 2,000 feet. Where sands 10 to 40 feet thick are encountered and wells can be completed at a cost of $10,000, wells making from 50 to 500 bbls. daily are the ideal types of play for small producers who can finance shallow holes, but do not want deep ones.

The state officials of Illinois seem content to let proration develop unforced, produce enough oil to care for state needs and then control the fields. There is pipe line proration, a sensible enough plan, but new oil fields will get outlets.

Illinois has settled down to a steady consistent exploitation and development status. Every area favorable for oil will get its testing. The Trenton pay areas are being leased and mapped. The Devonian and Silurian areas are being scouted and leased.

Operators are going back into old areas like Litchfield, in Montgomery County, and Jacksonville, in Morgan County, where shallow Pennsylvanian and Mississippian plays are found—depths of 600 feet more or less—and exploiting those 10- to 50-bbl. areas. Such spots are numerous and folding in the Pennsylvanian is carried down to the productive measures without marked unconformities.

It is the writer's opinion that any testing in Illinois on a surface or shallow well high on the edges of the basin, or in it, should be on folds showing reversals of 50 to 60 feet per mile in the Pennsylvanian. Lower reversals will probably be too low to overcome the divergence in the underlying Mississippian beds. Some of the reversals in the Mississippian are surprisingly long and sharp. In the Beecher City field there is a 450-foot drop from the highest point in the field to a point 6 miles southwest on the Benoist pay sand. Beecher City is on a marked high, which in time will probably be tied in with the Lake Centralia and Dix pools, 25 miles south.

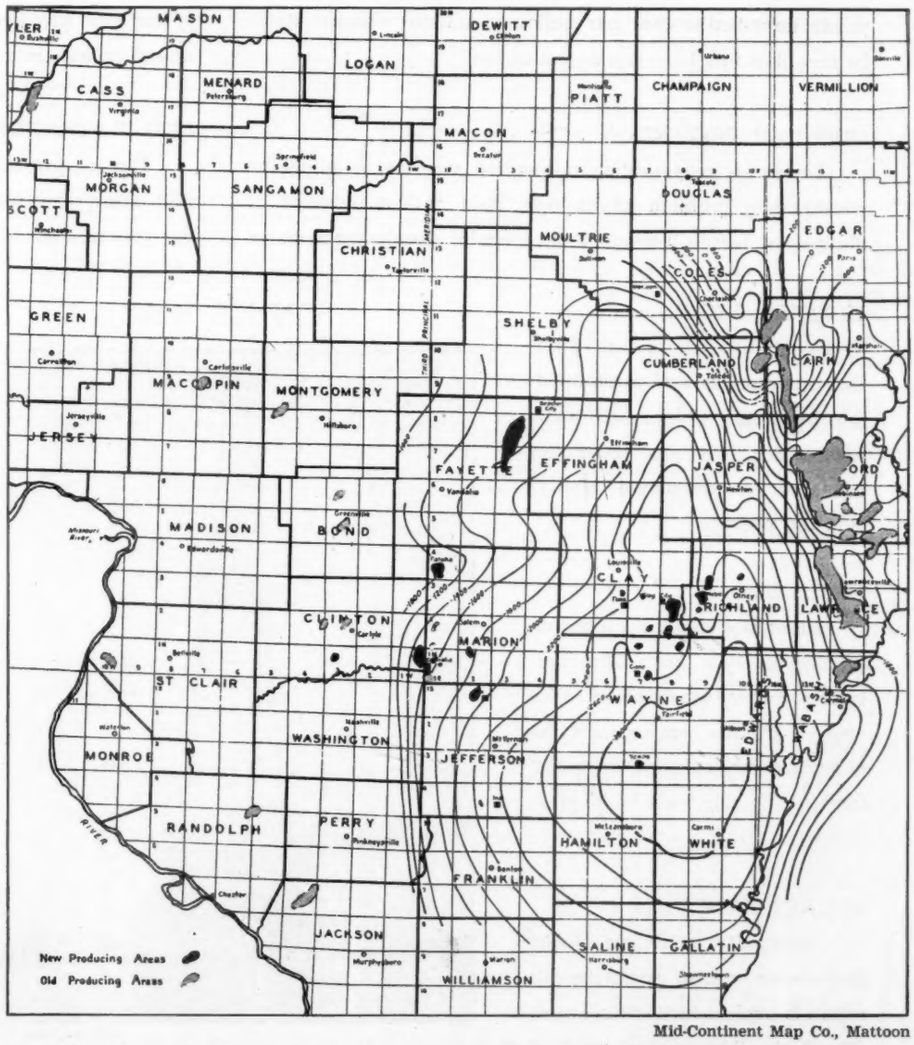
Estimates of the aggregate expected areas of the new pools opened since 1936 are as follows:

Pool and County—	Acres
Cisne, Clay	8,000
Clay City, Clay	10,000
Noble, Richland	10,000
Olney, Richland	5,000
Flora, Wayne	5,000
Wayne City, Wayne	5,000
Beecher City, Fayette	10,000
Avena, Fayette	10,000
Lake Centralia, Marion	5,000
Centralia field, Marion, Clinton	2,000
Dix, Marion	5,000
Bartelso, Clinton	1,500
Patoka, Marion	1,000
Total all new fields	77,500

Whether or not all these fields will prove as large or larger than estimated, the areas are important and 77,500 acres is probably an underestimate.

The total area of old developed production in Illinois in the old fields is put at 93,000 acres, so that in two years the new fields are not far behind the old fields in areal extent, and before 1938 is over new fields should outline areas even larger in extent than all the old production with reserves fully as great as all past production.

An expectancy of new reserves for Illinois of between 1,500,000,000 and 2,000,000,000 bbls. is clearly in line.



Mid-Continent Map Co., Mattoon

Southern Illinois. Subsurface contour on top of Lower Mississippian revised October 7, 1937, according to State Geological Survey Department, Illinois State University

SPARKS FROM THE NEWS

TEN DISCOVERIES

No curtailment on discovery in Kansas — five new oil pools were opened and five older pools were extended in the Sunflower State the past week.

CLOSE RACE

Illinois, Arkansas and Michigan are running neck and neck in the race to determine which will rank eighth among the oil producing states.

FAIR

Companies which have advanced gasoline tank-wagon prices three-tenths cent per gallon in middle western states believe it is fair to everyone concerned.

OUNCE OF PREVENTION

Louisiana conservation authorities propose to solve the well-spacing problem of its new field at the outskirts of Shreveport before it reaches the town-lot development stage.

STAY AT HOMES

Greener fields may be attracting many operators away from Oklahoma, but those that remained at home succeeded in opening three new pools and extending a fourth last week.

THE REASON

Twenty-five oil wells and one dry hole in seven days explains why 52 new tests were started in southern Illinois last week.

WEEK-END TOURIST

Reports show that the tourist business to remote resorts is less than last year with the close-in week-end trips running ahead of last year.

REPEAT PERFORMANCE

The oil industry's record as regards number employed and hourly and weekly wages in the 1938 depression, as in the previous one, is outstanding in its accomplishments.

25 YEARS AGO

Twenty-five years ago Bradford operators started water-flooding by filling abandoned wells with water. It was something new and the government tried to stop the practice!

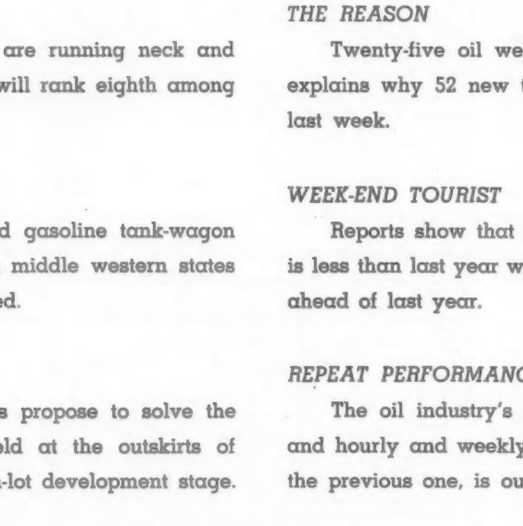
ONE LOSER

Action of a major company in placing its New York City marketing under provisions of the state fair trade act protects the company, its dealers and its customers. The only loser is the price cutter.

MOTHER AREA

Competent geologists insist that sooner or later operators will return to explore further the Forest City Basin, "the mother area" of the Mid-Continent.

ON ITS WAY



Courtesy, Shell News

Floating derrick being towed down a Louisiana bayou to a new drilling location

POSTPONEMENT

With the scheduled grand jury investigation definitely out there are those who are confident that pending trials at Madison will be postponed until the remaining issues of the first case are settled by higher courts.

GOOD NEWS

Pennsylvania Grade lubricants which experienced the greatest decline of any product earlier in the year have made an about-face and started up.

DIRECT IMPORTANCE

Decreased oil shipments to the Orient are of direct importance to California and may affect all domestic operations if the trend continues over the balance of the year.

THE FOREST CITY BASIN

A Comparison With the Illinois Basin

By W. G. OSBORN
Geologist, Douds, Iowa

In a consideration of the merits of the Forest City basin as probable oil-bearing territory there are two outstanding facts apparent. The first is that Miami County, Kansas, is very certainly within the natural boundaries of this basin, and it was here, near Paola, that the first oil and gas was produced west of the Mississippi River and, therefore, the first in the Mid-Continent field.

The first drilling, which was a dry hole, was drilled in 1860, only one year later than the bringing in of the famous Drake well at Titusville, Pa. Shortly after 1860 the Paola district produced both oil and gas, and gas was transported by pipe lines for heating and illuminating purposes.

It is a curious commentary on the vagaries of oil prospecting that in the succeeding years the oil development drifted southward from here into Oklahoma, and now, with a daily national production of 3,000,000 bbls., the oil possibilities of this, the "mother basin" of the Mid-Continent region, are still unknown.

The second outstanding fact apparent in respect to this basin is its close parallelism in character with the Illinois basin. This remarkable parallelism is evident in both their stratigraphic and their tectonic characters. Regionally they constitute a geological binary, and one impossible to find duplicated elsewhere on our continent.

By reference to Figure 2, it will be seen that, areally, they present somewhat the aspect of the two lobes of the human lungs separated by the vertebral Nemo uplift, and to continue the simile, the northward convergence of the Nemaha and the La Salle axes, with the arching of their corollary faults and anticlines, presents the aspect of thoracic containment.

By reference to Figure 1 it will be seen that the vertical section across this same region presents the same similarity and analogy, and one which cannot be dissipated by more detailed knowledge.

As the relationship above indicated is geologically consistent, and as the Forest City basin is one of the few large areas which have had no serious prospecting of the kind now available through the use of modern geophysical methods and instruments, the following additional parallelisms between the two basins are important.

The proper comprehension of the Nemaha axis is not that of a continuous fold or flexure, but rather it is more properly understood as a series of salients en echelon, each unit of which presents a predominating north and south major axis. This is equally true of the La Salle axis as far as it may be determined at this time. This suggests a common or interdependent genesis.

At the south end of these axes, where their elevations tend to moderate and disappear, the most important oil production in their respective states have been found. This parallelism suggests, not similar oil sources, but similar circumstances of oil drainage.

Further, these paired axes, with their corollaries above mentioned, delimit equally and similarly the northern limits of such crustal action as is distinctive to the Ozark crustal district. Within these lines the forces of the Ozarks have been the predominating factors.

Of further interest is the fact, generally speaking, that the stratigraphy of the two basins, the Forest City and the Illinois, is almost identical. The chief distinction in this respect is represented by a greater lapse in the late Mississippian sedimentation of the Forest City basin, during which none of the Chester-Mississippian formations were deposited; and this lapse is a circumstance also of a part of the Illinois basin area.

The Uplifts

As the interest of the oil-producing fraternity is not simply in geology, but rather in the practical geological aspects of possible oil-bearing areas, only the latter will be touched upon here. In this aspect, as the most important factor in the case of any individual oil prospect is its relation to the uplift upon which it is dependent, the four uplifts which bound the Forest City basin are most important. Each of these four dominates an area of the basin adjacent to it.

The Ozark uplift.—This bounds the basin on the south. While the contours of this Archean salient come up from the southwest, through southeastern Kansas, a promontory of the basic rock in the vicinity of Kansas City results in those contours being turned eastward until they meet the influence of the Nemo uplift. Because of the thinness of the Pennsylvanian division of rocks the "production trend" in those rocks in southeastern Kansas cannot be expected to take this eastward course, but, on the contrary, a production trend in the older rock divisions could be expected to turn eastward into that embayment.

The most outstanding stratigraphic feature of this Archean slope exists in the fact that both the St. Peter formation and the Silurian are overlapped by younger beds. The possibilities resting in this circumstance are obvious.

The Nemo uplift.—(This name is a contraction of N.E. Mo.) This bounds the basin on the east from the Missouri River, west of St. Louis, almost to Des Moines, Iowa. While commonly understood as simply a feature of the general Ozard salient, this uplift is really a distinct genetic feature by itself;

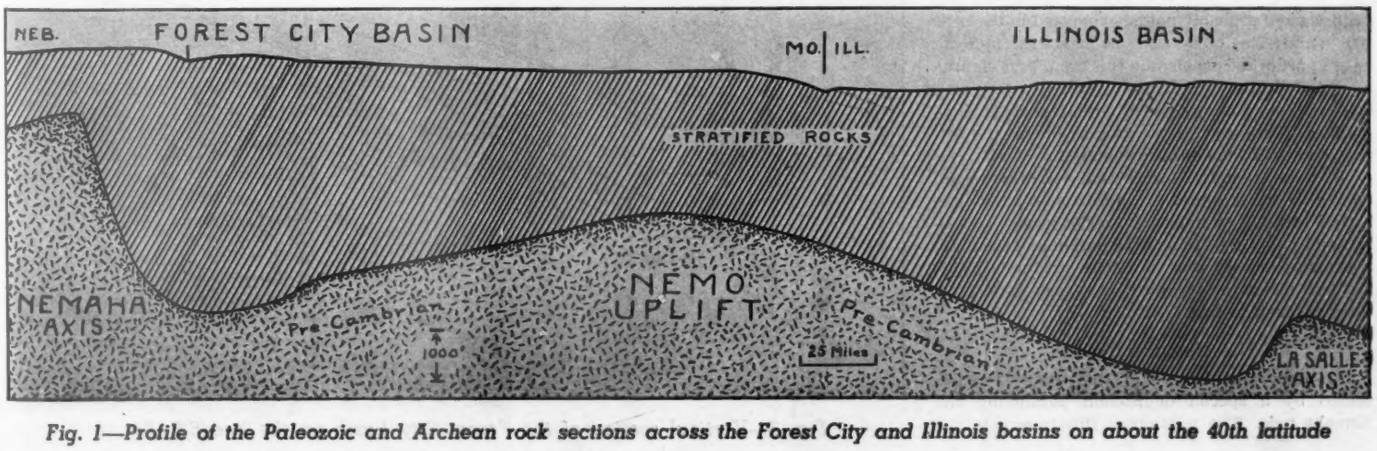


Fig. 1—Profile of the Paleozoic and Archean rock sections across the Forest City and Illinois basins on about the 40th latitude

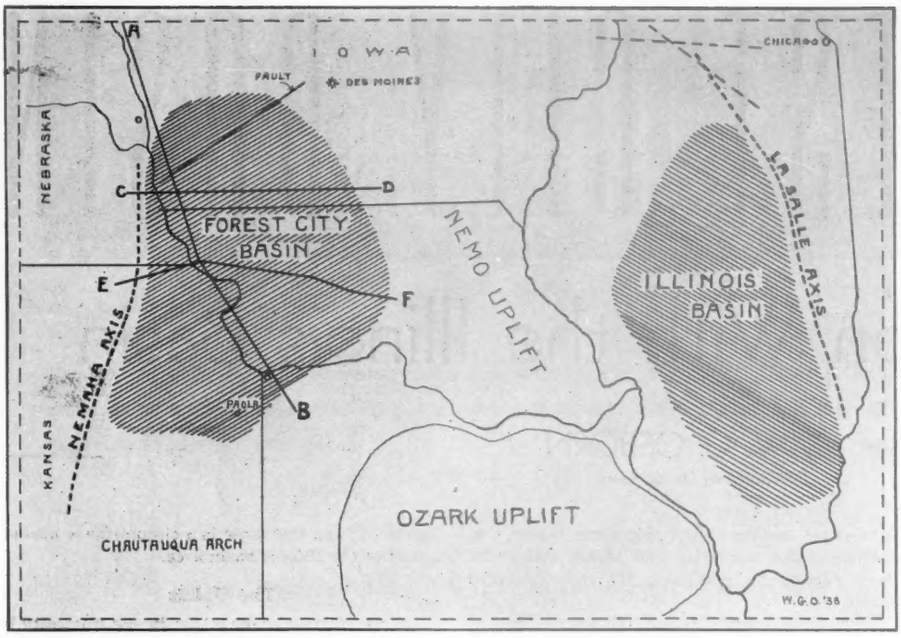


Fig. 2—Areal comparison of the Forest City and Illinois basins

it becomes subordinate to the Ozard uplift proper only where it passes through and amplifies it. Practically all of such oil localization as may be on the east side of the Forest City basin will be influenced or determined largely by factors inherent in the phenomena of this uplift.

The Dakota uplift.—This forms the basinal closure on the north. Reference to the accompanying section A-B will find illustrated the dependence of this basin on this uplift. The Wilson-Thurman fault indicated on this cross section has a 280-foot downthrow on the south and extends with about the same dislocation to a point west of Des Moines. The relative increase of the angle of dip on the slopes of this salient, the relative terracing of its slopes, and the phenomena involved in the fault must all constitute interesting geological circumstances for the oil prospector. The north closure of the Illinois basin does not present an equal interest.

The Nemaha uplift.—This, the westward closure of the basin, is highly interesting. Its central, Archean, core, presenting the modest height of 1,500 feet above the floor of its environs in Butler County, Kansas, rises to a height of nearly 4,000 feet above that same floor near the north line of the state.

Such is the variety and complexity of geological circumstance along its eastern slopes that brief description is impossible, but it can be safety said that such is the general complex that its oil possibilities will probably not be exhausted in the next 100 years. The cross sections herewith indicate only a part of the problem in this area. It is an area in which stratigraphic traps of every variety may be found, in addition to such anticlinal closures as might be expected to be formed under the circumstances of such an Archean rise.

It seems that the forces that were expressed during the evolution of this uplift must have dominated, directly or indirectly, all of such oil localization as may exist in an area paralleling the main axis and extending eastward at least 20 miles. This includes all of the trough or foredeep which features its eastern foot.

The Nemaha Trough

An important feature of this basin is represented by a special depression paralleling the Nemaha axis. The relation of this trough to the general geosyncline may be observed by reference to cross sections C-D and E-F.

This trough seems to have been produced as a result of the independent vertical movements as between the Nemaha and the Ozard crustal districts. This has resulted in not only producing a shoulder or terrace along its eastern rim, but also produced a thickening of the Pennsylvanian vertical section. This thickening, of several hundred feet, is seemingly not a result of increased sedimentation, for it is indicated that the increase represents a series of beds in, or below, the lower Cherokee, and which beds are not general elsewhere in this basin. It is possible that they represent the northern extension of the Bartlesville or Burgess subdivisions.

In its northern extension, in Iowa, this trough, on passing the axis of the Iowa synclinal, becomes a distinct and exclusive syncline, trending west of north, and diminishing and disappearing against the slope of the Dakota uplift at a point north and east of Omaha. So far as is known at present there is no such feature as this on the forefront of the La Salle axis in the Illinois region.

It is an interesting aspect, geologically, if this trough is regarded as a possible example of what we might term a "fossil foredeep," such as now border our Pacific continents.

As this troughing can hardly help but have been a special factor in the relocalization of the pre-Pennsylvania oil and gas, at least locally, and as the local sedimentation above noted furnishes further practical differentiation, it should be specially distinguished, and the name "Nemaha trough" is here suggested for it.

Regional Deformations

The deformations of this basin are of three distinct orders: First, the folding and faulting due directly to the evolving of the uplifts, such as are exemplified in degree by the structures of the Pittsfield and Trenton pools, on the east slopes of the Nemo and Ozark highs. The necessity for brevity and the relatively unexplored status of this basin will not fairly permit particularization of the comparable instances here, but it is enough to say that deformations of such character exist here as numerously as anywhere, and that such are primary to all others and therefore are most important.

The second general class of deformations apparent here is one which this region holds in common with at least all of the Mid-Continent field. The forces which produced these flexures gave them a north and south major axis; they are north and south folds. Throughout the Mid-Continent field this north and south flexing can be observed as a component of practically all folds. In some instances it dominates the local structure entirely and in others it only modifies flexures of previous and different origin. This element of crustal evolution is emphasized here only because there is evidence that it will be a specially important factor in the development of this basinal region, equally so in both Iowa and Missouri, and in a lesser degree in Kansas and Nebraska.

The third class of deformations recognizable here were first described in their general character and relationship by McGee, in 1891, who indicated the principal flexures of this system of folds in the area of eastern Iowa and northern Illinois. The axes of these long folds are seem ingly concentric with a point in east central Wisconsin. The Missouri Survey has indicated a series of northwest-southeast folds throughout

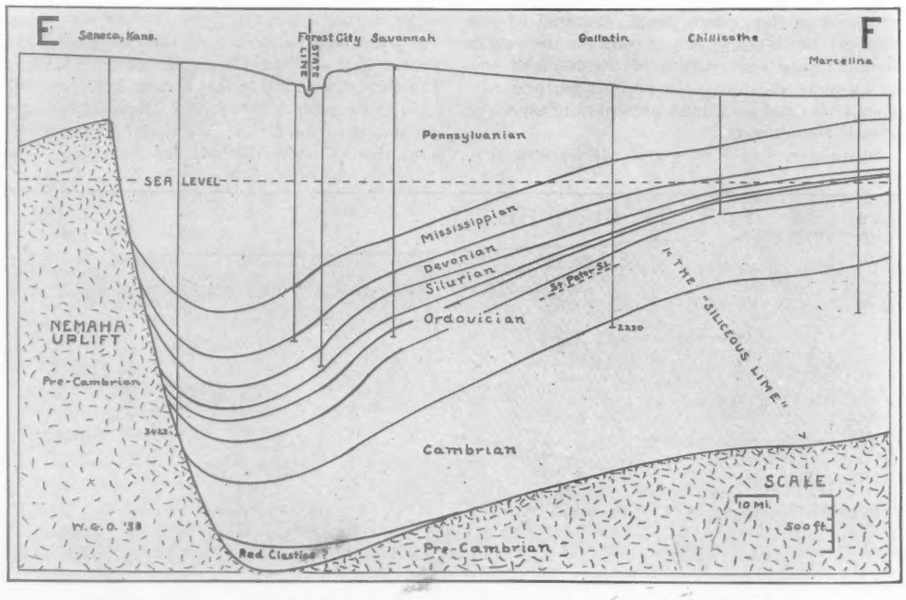


Fig. 3—Vertical section of the Forest City basin on the line E-F, Fig. 2

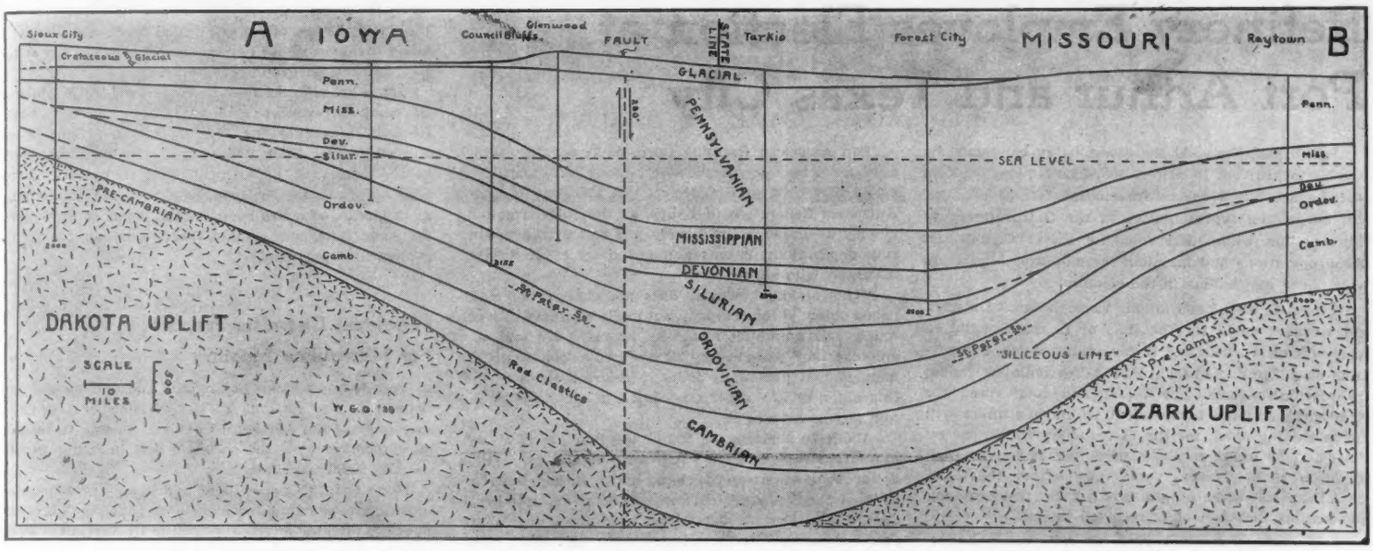


Fig. 5—North and south vertical section of the Forest City basin, through Iowa and Missouri, on the line A-B, Fig. 2

that state, north of the Missouri River, which it seems must be considered as an extension of McGee's Iowa series. Because of the glacial covering of these states in that area there is not enough evidence to support any certainty regarding the existence of these folds. They probably exist in some degree but they cannot have been an important factor in the oil localization of the region.

The Clarinda Trend

Another striking example of parallelism exists in a comparison of the Duquoin trend, of the Illinois basin, with the Clarinda trend, of the Forest City basin.

The Clarinda trend is here so named because of the deep test which was drilled near the city of that name in southwest Iowa, and not far from the axis of the trend, which test discovered one show of gas and two of oil in the pre-Pennsylvanian rock divisions.

The axis of this trend follows, approximately, the line of the ninety-fifth meridian. It has a length of perhaps over 180 miles. The southern end of this trend extends through Miami County, Kansas, west of Paola, and the oil production of that district may be, in part, attributable to the influence of this axis. This is a structural trend, of course, and its effect on the natural course of the Missouri River, where that river crosses the ninety-fifth meridian, can be observed by reference to any map of that area. In the case of a trend of this nature it is not to be expected that the major axes of its constituent folds will necessarily follow exactly the axis of the trend.

The Duquoin trend, of the Illinois basin, is also a north and south trend: Its length is also at least comparable, and its distance from the La Salle axis, at its southern extremity, is something over 80 miles, which distance is the same in the case of the south end of the Clarinda trend and the Nemaha axis.

Stratigraphy

It is possible to mention here only such features of the basinal stratigraphy as might interest the oil prospector. As has been said previously, except for a greater lapse in the Mississippian sedimentation there is no essential difference in the stratigraphy, generally, as between the Illinois and Forest City basins. In fact, it can be safely understood that there is as much difference, lithologic and faunal, on any section across either basin as there is as between the two basins.

Beginning with the deepest subdivisions of the Forest City basin section, and speaking generally, the following presents the chief features of interest:

Sioux quartzite.—Thickness up to 300 feet or more. This is probably Middle Cambrian. Also, it is possibly a silicified phase of the red clastics of Iowa and kindred clastics elsewhere in this region. While it is generally classed as pre-Cambrian, it is specially mentioned here for the reason that in three drillings, penetrating to depths 300 feet below the top of the quartzite, in western Missouri, at Greenwood, Garden City, and Rich Hill, the drills encountered asphaltic rock beds in considerable thickness, the content of which rock the writer has termed "fossil oil" for the reason that when cut with ether and evaporated it did not return to its original semi-solid state. The connotations of this circumstance are impressive as regards the entire basinal section.

Cambrian.—Average thickness more than 1,000 feet. Chiefly dolomite, siliceous, and sandstones, locally containing shale; an upper phase is glauconitic from Wisconsin to southern Oklahoma. A test entering these rocks, at Gallatin, Mo., reported gas at the top of this division.

Ordovician (Lower).—Average thickness about 500 feet. Dolomites and magnesian limestones, siliceous, with local sandstone. Shows of oil have been found in the top of this division, and a show of oil near its base at Clarinda, Iowa. The interval from the top of this division to the bottom of the Cambrian is what is generally known as the siliceous lime in Oklahoma and Kansas.

Ordovician (Middle).—The St. Peter formation, chiefly sandstones, with shales locally. Average thickness about 100 feet. This represents, in this basin, the equivalent of the Wilcox sand and allied sandstones of Oklahoma.

Ordovician (Upper).—Average thickness about 400 feet. Dolomite, limestone and shale. Generally speaking, each major member of this division

(Continued on Page 34)

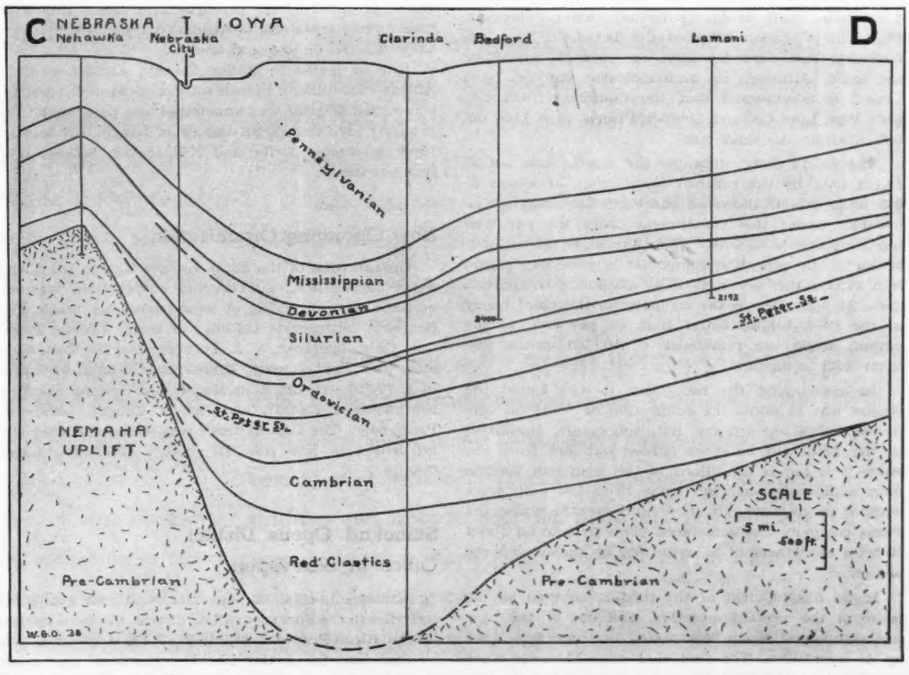


Fig. 4—Vertical section across the Forest City basin on the line C-D, Fig. 2

Refinery Employes Election at Port Arthur and Texas City

HOUSTON, Tex.—At the secret ballot conducted by the National Labor Relations Board 1,468 plant workers voted against Oil Workers' International, C.I.O. affiliate, for bargaining representative at the Gulf refinery in Port Arthur, while 1,211 voted for the C.I.O. unit. Of 2,959 operations and maintenance employes eligible to vote, 2,688 cast ballots in the election.

Two A.F. of L. craft unions were chosen; 38 electrical workers voted for the A.F. of L. craft, while 12 voted for oil workers and 12 for neither union. Seventy-nine machinists voted for A.F. of L.'s machinists' union; 18 machinists voted for C.I.O., and four voted for "neither." A small independent trainmen's union will be bargaining agent for the 14 trainmen within the refinery. This union received all of the 14 ballots cast. Eight of 15 bricklayers voted for "neither the C.I.O. or A.F. of L." while oil workers got two votes among the masons, and A.F. of L. received three.

Boilermakers did not vote, as A.F. of L. boilermakers' union was certified as representative for this group after a National Labor Relations Board hearing.

Pan American Refining Corp. of Texas City, which operates a refinery at Texas City, has recognized Federal Labor Union, Local No. 21,181, affiliated with the American Federation of Labor, as the sole bargaining agency of employes on hourly pay roll in the production department, it was announced by P. J. Sweeny, manager, who added:

"This action, however, does not change the established policy of the company not to discriminate between union and nonunion men. As provided by law, any employe may present any of his own problems to the management personally if he so desires. He may join this union or any other association of employes or not join any as he sees fit."

About 70 per cent, or 500 of the Pan American employes are said to have voted for Local 21,181, which is for Pan American workers only. It has been organized about a year. Officers of the union are: President, Clyde Foster, Galveston; vice president, W. G. Cox, Galveston; secretary, Dan Curtis, Galveston; treasurer, J. C. Trahan, Texas City, and sergeant-at-arms, Jack Frost.

Fort Norman Diesel Oil Supplied to Mining Field

YELLOWKNIFE, North West Territories.—The first cargo of diesel oil from the Imperial Oil, Ltd., field and refinery at Fort Norman for the new mining camp here was landed recently, consisting of 440 tons of oil. Oil from Fort Norman is extensively used in the mining camps of the Canadian Northwest.

K.M.A. Operators Begin to Feel Pipe Line Proration

FORT WORTH, Tex., Aug. 8.—Operators in the K.M.A. field of North Central Texas this week were feeling the effects of pipe line proration as two of the crude oil purchasing companies serving the field reduced their daily takings by 25 per cent. The three other companies in the field were expected to follow the movement, started when Texas Pipe Line Co. announced that retroactive to August 1 it would reduce its oil purchases to 8,000 bbls., or a reduction of 1,300 bbls. daily from its former taking. Magnolia Pipe Line Co. soon followed the Texas Co. lead, announcing last Saturday that its cutback would be the same. Although no announcement has yet been issued, it is expected that the Continental Oil Co., Gulf Pipe Line Co. and Sinclair Prairie Pipe Line Co. will institute the same rule.

The field's daily allowable for August was set at 18,131 bbls. by the railroad commission, of which 9,085 bbls. is well allowable and 9,046 bbls. acreage allowable. Under this curtailment order the per well top allowable is 32 bbls. When the more drastic proration of the pipe line companies is generally placed into effect, the per well daily output will approximate 24 bbls. The Texas company is the chief buyer in the field, taking better than 60 per cent of the output, while the remainder is divided among the other four companies.

In announcing the reductions it was stated the reason was to allow the connection of wells on connected leases but without well connection. Purchases in the field will be more spread out and from the move it is hoped conditions in the field will become more stabilized than when some 75 to 100 wells were without connections. Of these unconnected wells, the Texas company has announced plans to take on about 50 with the others to be cared for by the other companies.

Rapid development of the field is credited as the cause of the present situation, and out of the pipe line companies' move is expected to come a slowing up of operations. The fact that only 14 wells were completed in the field last week, as contrasted with 18 to 26 wells in previous weeks, reveals that operations may already be slowing up.

In the East Texas field, where an unhealthy condition was brought on last week by the disconnecting of some 450 wells (The Oil and Gas Journal, page 22, August 4), little change was shown. Some of the larger companies serving the field were taking over a few of the disconnected wells and all were holding their present connections. However, most of the companies were none too ready to take on new connections, feeling that since their storage facilities were full and no immediate relief of the present condition was in sight, it would be better to let the oil stay underground.

Lease Sales in Oklahoma And Kansas Areas

Several oil leases in Caddo County, Oklahoma, held by Clyde M. Becker, widely known geologist of Chickasha who died recently, have been assigned to Texas Co. by administrators of the Becker estate. Most of the tracts, acquired by the geologist at a recent Kiowa Indian Agency lease sale at Anadarko, Okla., are in Townships 5n-12w, 6n-11w and 6n-12w.

Sale of leases in Butler County, Kansas, held by Allison-Fitzwilliams Petroleum Co. to Saco Oil Co. for a reported $50,000 was announced the past week. The property involved the SE and NE of section 9-27-6e, with three producing wells, and NW section 3-28-6e, with four producers.

New Operating Organization

Organization of the Southwestern Kansas Oil & Gas Lease Association, a California corporation, was announced with the filing of legal papers last week. The firm will incorporate holdings of Harry Cragin, Ponca City, Okla., operator; W. A. Turner, Amarillo, Tex., operator, and Paul Rueser, Moundridge, Kans., geologist, in a 72,700-acre block in Meade and Seward counties, southwestern Kansas, and Beaver County, Oklahoma Panhandle. The first of three test wells scheduled will be drilled in NW NW SE section 22-34-30w, Meade County.

Stanolind Opens District Office in Shreveport

A district office to supervise land and geological activities in the Shreveport, La., district has been opened in the Ricou-Brewster building in the Louisiana city by Stanolind Oil & Gas Co. The company previously has had representatives in Shreveport, but is enlarging its staff there by the transfer of several employes from the Tyler, Texas, office. In effect, one large district is being divided up into two smaller districts, with offices in Tyler and Shreveport, respectively.

Those transferred from Tyler include: A. A. Holston, to head Shreveport geological department; Charles Goodson, directing the Shreveport land department; Russell Farmer, Slick Weintz, and Miss Margaret Gager, in the geological department; and Dick Lack, Larry Hines and Miss Ruth Roberts in the land department. A. C. Castle, who has been district scout at Shreveport for some time, will remain there, working out of the geological department.

Petroleum Chemists Prepare For Milwaukee Meeting

Petroleum chemists of England and Canada will participate in the sessions of the division of petroleum chemistry of the American Chemical Society to be held in connection with the society's 96th meeting in Milwaukee, September 5 to 9.

More than 25 papers and addresses are scheduled, according to the announcement of Dr. Jacque C. Morrell, associate director of research of the Universal Oil Products Co., Chicago, chairman of the division.

Introduction of substitute motor fuels will be among the themes. European nations, with economic self-sufficiency as their goal, are experimenting with coal, wood, oil shale, and other natural resources in an effort to develop synthetic fuel, it is pointed out.

About 3,000 chemists will attend the meeting at which sessions of 17 professional divisions will be held.

Sinclair Refining Company Is Awarded Texas Contract

AUSTIN, Tex.—Gasoline and lubricating oil needs of the state during the next fiscal year were estimated at $850,000 by the board of control in awarding a contract to Sinclair Refining Co. to supply the products another year.

Discounts offered by Sinclair for retention of the contract were higher than prevailing during the current fiscal year. On bulk deliveries of gasoline, the company will give the state a discount of 1.2 cents per gallon off posted tank-wagon prices compared to a discount of .7 cent this year.

It was estimated the state will purchase 5,404,729 gallons of gasoline in bulk, of which 5,208,256 gallons will be of regular grade. Based on the tank-wagon price here the gasoline would cost the state 9.8 cents a gallon plus state taxes, but the tank-wagon price varies over the state.

The low offer on gasoline delivered retail was 3 cents above posted tank-wagon prices, compared to 4 cents last year. Needs in retail deliveries were calculated at 302,768 gallons of premium grade, principally for use in fast cars and motorcycles of the Department of Public Safety; 523,977 gallons of regular grade and 4,033 gallons of third grade, a total of 830,778 gallons. The bid price is, in effect, a discount of 1 cent a gallon off the posted retail price, while last year there was none.

The contract on lubricating oil and greases of numerous classifications and quantities was computed to cost $63,761, while an estimated 303,449 gallons of kerosene will be purchased at a discount of 1.5 cents off tank-wagon prices, compared to a discount of 1 cent a gallon this year.

A new clause in the contract will give the state the benefit in event of gasoline price wars. It stipulates if gasoline is sold to any other purchaser, except the federal government, at a lower price, the smaller amount shall be charged. In some drastic price wars gasoline has been sold to individuals at a lower cost than to the state. The new provision will prevent such a condition.

Map of Nueces County

Porter Regenold Map Co. of Corpus Christi, Tex., has just completed a new ownership map of Nueces County. The map was drawn on a scale of 1 inch to 4,000 feet, and shows all recent developments, railroads and principal towns.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Under a Bushel

Most oil people are familiar with the remarkable record established by the oil industry as regards employment conditions during the 1929-1933 depression and the continued cheapness of its products during the period of general price advances which followed.

There is little evidence, however, that the employes and the public which benefited from these developments were fully aware of this accomplishment which has had no parallel among other industries.

The employment situation has been further emphasized during the recent depression characterized by the sharpest decline in general business ever known in a similar period.

Briefly summarized, the position of the oil industry during the past six months as regards payrolls, hourly wages and weekly earnings and general employment conditions, continued far ahead of any other industry.

A few figures taken from the United States Bureau of Labor statistics in regard to general employment will suffice to prove this statement.

Petroleum refining, which had reached an employment index figure of 123.7 for 1937, had dropped only 6 per cent by June of this year. In contrast, the average for all manufacturing industries, which expanded to 99.3 in 1937, started a sharp decline in the latter part of the year and by June of this year had dropped to 75.8.

In the manufacturing division of the oil industry the hourly wages and weekly earnings have been higher than in any period in the history of the industry. They have declined generally in other industries.

It is worthy of note in this connection that weekly earnings in petroleum refining in May, according to the latest available monthly report of the government, were 50 per cent greater than in any industry and in the case of the crude producing branch were 30 per cent greater.

Indicative of the industry as a whole, payrolls of both those who operate the approximately more than 450 refineries in this country, and those who operate the crude producing division are practically at the peak point of last year, whereas, the index finger for all manufacturing industries had dropped from 98 in 1937 to 67.2 in June of this year.

This record in regard to all matters of employment, which the present national administration is holding out as desirable to establish a stable economy, has been accomplished by the oil industry with no extra cost to the consumers of its products.

In 1937, when the index figure for all commodities had advanced to 86.3, the index for petroleum products was only 60.5. Since that time there have been price decreases in many lines of petroleum products. In May last the petroleum index had dropped to 56.4 while the figure for all commodities was 78.1.

The industry as a whole has maintained a normal level of operations, replacing the old with the new, and has continued a steady expansion in facilities wherever justified.

As previously indicated, there is little evidence that the general public, or the government at Washington, realizes or appreciates that remarkable record of the oil industry.

It gives rise to the thought that the oil industry must formulate some adequate plan which will place these records and others before every employe and every consumer of petroleum products, including the political theorists and labor leaders and those who have endeavored in various ways to misrepresent the accomplishments of the industry.

An industry which hides its light under a bushel fails to reap the reward of recognition for its record.

Second Madison Trial Sept. 26 and Grand Jury Dismissed

By R. B. PYRE

MADISON, Wis., Aug. 9.—Definite preparations for a second "oil trial" in Madison, opening September 26, were announced here last week after Federal Judge Patrick T. Stone had taken under advisement a government motion demanding that he rescind part of his order of July 19 revising the jury's verdict in the price-fixing trial which occupied four months last fall and winter.

Judge Stone disclosed that the government had asked, and he had approved that date for retrial of 15 executives and three major oil companies convicted on January 22 of conspiring to raise and fix tankcar prices of gasoline. The court set aside the verdict against them in his decision July 19 and granted them a new trial.

Postpone Trial

The announcement means that trial of nine executives and eight oil companies accused of combining to restrict profit margins of gasoline jobbers in violation of the antitrust law, temporarily calendared to open on September 26, will be postponed until a later date. These defendants comprised the group which refused to join, on June 2, in nolo contendere pleas on which Judge Stone fined 13 companies and 11 individuals a total of $385,000.

While government attorneys declined to discuss the case here, it was believed possible that some at least of the nine indicted individuals who have not yet been tried in the price-fixing conspiracy case may be included as defendants in the retrial now scheduled for next month.

Indication that the new government investigation into the oil industry, which was to have started here last Thursday, has been called off at least as far as Madison is concerned, was seen in Judge Stone's announcement that he had dismissed the grand jury. The grand jurors, who reconvened here last Wednesday after a recess since July 20, returned nine new indictments in general criminal cases and were paid off at noon Thursday.

Judge Stone asked briefs, after a three-hour argument, on the government's new motion to void that part of his July 19 order in which he granted outright dismissal to 10 individual defendants and one company originally found guilty by the jury in the gasoline price-fixing case.

The argument centered around the government's contention that Judge Stone had power to grant new trials, but not to dismiss any defendants entirely after they had been found guilty. The department of justice did not contest that part of the order granting new trials to 15 individuals and three companies.

At the end of the trial last January, Judge Stone expressed doubt as to the guilt of some of the indicted company executives, but deferred his ruling on motions for a directed verdict, declaring he wanted the jury to pass upon the questions of fact. He announced that the same motions might be offered after the verdict with the same force and effect.

When the argument opened here last Thursday, Judge Stone filed an order amending his January 21 ruling to clarify the record and show definitely that he intended to reserve his decision on the motions. Government attorneys objected to the amended order.

The prosecution's petition not only asked the judge to expunge his "purported" order of July 19 but challenged his power to reserve decision on motions until after return of a verdict.

Latest Developments

Judge Stone has set September 26 for the new trial granted 15 executives and three companies in his order of July 19. This has caused postponement of the trial of nine executives and eight companies who refused to sign the nolo contendere plea, whose trial was originally set for September 2.

He dismissed the grand jury, which indicates that the further investigation has been postponed indefinitely.

He took under advisement the government motion that he rescind his order revising the jury verdict and dismissing the cases against 10 executives and one company.

Government Plea

John H. Lewin, special assistant to the attorney general who argued the petition with the support of William P. Crawford, special counsel, contended that a federal court, as distinguished from a state court, has authority, after return of a verdict, only to arrest judgment and grant a new trial. The federal conformity act, which provides that federal courts adopt the procedure of the states in which they are located, applies only to civil proceedings and not to criminal cases, he claimed.

"No federal court has power to give judgment notwithstanding the verdict in a criminal case," Lewin argued, declaring "we haven't found any case in which this has ever been done in a criminal trial. We can find no authority either in the statutes nor in court decisions for this proceeding."

"What was the practicable thing to do?" Judge Stone inquired. "It had been a long trial, wearing upon the court, the jury and everyone concerned. To decide upon the motions for directed verdict at the time would have necessitated months of delay to permit the court to go through the testimony. Should I have kept the jury locked up while examining the record and briefs? The court reserved the right to rule upon the motions after verdict as the practical, sensible and lawful thing to do."

"I can understand the difficulty under which your honor was laboring," Lewin admitted. "All of us were fagged out. But I don't believe you can, in the face of the law, reform the practice of the court to make it more expedient."

Lewin, who declined to concede that any part of the jury's verdict was unfair, insisted that Wisconsin statutes and decisions do not apply to the federal case.

Crawford declared a decision not supported by law cannot stand, and if such power were exercised by courts as a practice he held, it might result in "a lack of enforcement of criminal law." He hoped, he said, that this case will result in clarifying the powers of courts.

The arguments of Lewin and Crawford were answered by Weymouth Kirkland, attorney for the Standard Oil Co. of Indiana, two of whose officials were discharged under the court's decision, and Charles I. Francis, counsel for the Pure Oil Co., whose president, Henry M. Dawes, similarly was exonerated by Judge Stone.

"Flimsy Excuse"

Kirkland charged that the government had "come into court on a flimsy technical excuse" and "asks you to set aside what you have done."

If a new trial were ordered it could result only in unnecessary expense, he said.

"They know full well that if the case were tried again before your honor it would be dismissed at the end of the government's case," Kirkland declared.

Even if the government's contentions were well taken, the attorney held, its motion came too late. He recalled the court's remarks during the trial, expressing doubts as to the guilt of some of the defendants. Everybody in the courtroom understood the judge's intention and "there were at least six government counsel sitting at the table when the court said he would reserve his decision," Kirkland added. "Did any of these experienced government counsel arise and say you had no right to reserve your decision at that time? No, they remained silent.

"You did what you had an inherent right as a federal judge to do."

Government counsel at least should have spoken in protest, if they intended to do so, on July 19, when the ruling was made, Kirkland said, but now the defendants have been dismissed, their bail discharged and they are no longer under the court's jurisdiction.

"By their conduct," he said of government counsel, "they not only acquiesced but invited your action. They are not in a position now to say it was unauthorized."

He disagreed "very much" with the prosecution's claim that "there was no law to sustain your honor."

Judge Stone not only had a "common law" right to do what he did, Kirkland said, but he declared there were "an armful" of decisions sustaining him, and the court also had an "inherent right" to do justice.

(Continued on Page 34)

Unitized Development Being Advocated for Shreveport Discovery

By GEORGE WEBER

SHREVEPORT, La., Aug. 8.—The recent discovery of oil on the north edge of the city of Shreveport has become the object of almost universal local interest. The new field may also prove to be the source of a number of serious problems, unless well designed regulations are strictly followed in its development.

To date, the discovery well, R. E. Allison No. 1 Ellerbee, is the sole producer, and no additional tests have been spudded in the area. The Allison well is about a mile from the city limits: Extension of proven production to the subdivided section of the city, to Cross Lake, or across the lake to suburban developments is now only a matter of conjecture.

However, such a possibility must be taken into consideration at the present time, and regulations must be laid down with the expectation that city lot and submerged lake drilling will eventually follow. The current problem for those interested in the field is to make certain that orderly drilling begins under a set of field rules which will guarantee the greatest benefit to land owners and operators. In this respect, the principals of lease unitization and pooling will find important application.

Although the wildcat was drilled on a 6,000-acre block, which will be readily adapted to development under wide spacing, the test is located near the southeast corner of the block. It is expected much of the initial drilling will take place outside the block, in the subdivided sections near the city limits. Leasing of these small lots has been brisk since the completion of the discovery well, and a number of applications for drilling permits are expected by the Shreveport office of the conservation department.

Wide Spacing Advocated

A hearing on the new field has been set for August 12 and no orders have been issued by the Department of Conservation regarding well spacing. However, the consensus among oil operators, well-informed land owners and petroleum engineers is generally that 40-acre spacing is the minimum pattern on which the drilling should take place. This is evident from a study of other similar field conditions.

The discovery well, completed at a total depth of 6,025 feet, cost approximately $60,000. Production is from the Lower Glen Rose formation at 5,549-70 feet, and the well showed an initial production of about 500 bbls. daily through a quarter-inch choke.

Conservative estimates place the cost of subsequent wells in the area at approximately $50,000. At that figure, it would be considered economically unsound, in view of anticipated recovery and present production restrictions, to drill more than one well to each 40 acres.

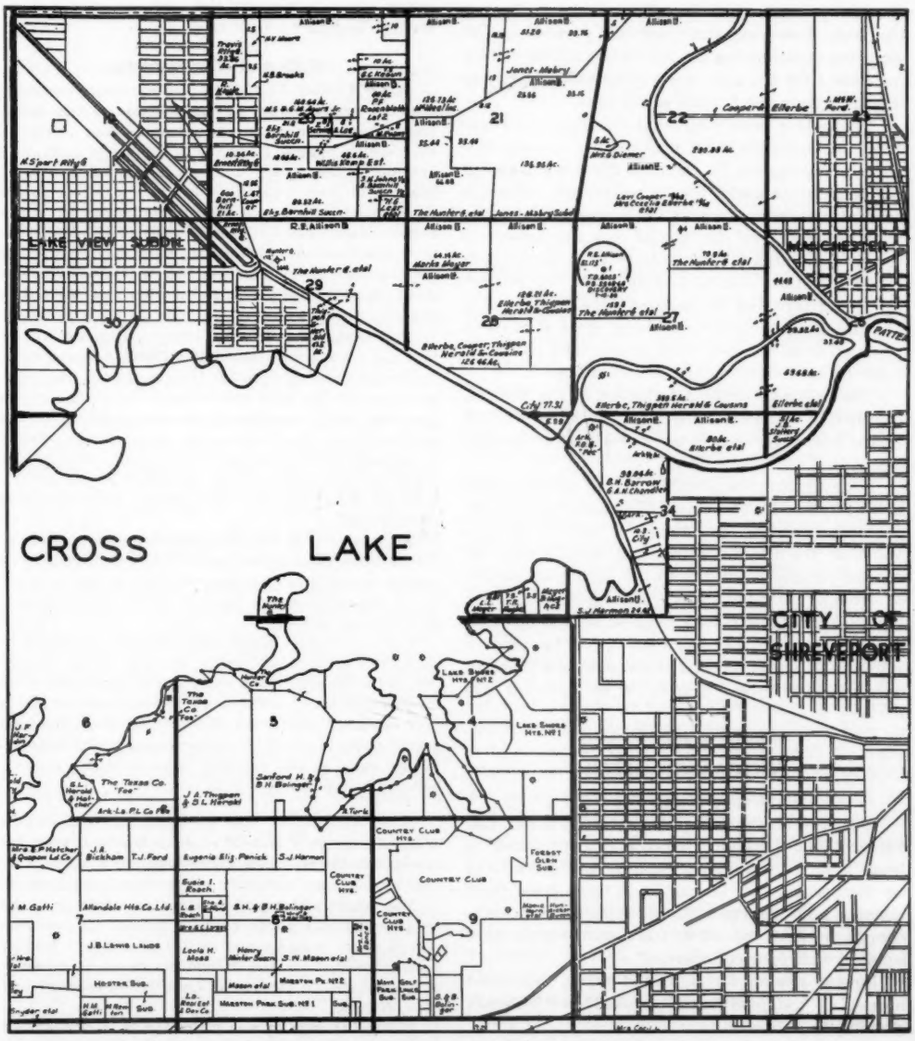
Drilling in the area is harder than at Rodessa, and although the depth is not so great as in the tri-state field, the drilling time will be roughly the same. The prevalence of fresh water sands at shallow depths and of salt water in deeper horizons, will require the setting of about 325 feet of surface casing cemented to the surface, and about 1,500 feet of intermediate string cemented to the surface casing. The producing string will also be cemented into the intermediate casing.

This probable casing program, together with rock bit drilling, will make the $50,000 cost estimate conservative. In addition to nominal development costs, safety regulations in possible townsite drilling will increase the expense of such wells.

The example of Lisbon, where operators, after drilling on a 20-acre spacing rule, later asked for a 40-acre pattern is cited in discussions concerning plans for the present field. Numerous other cases in fields presenting similar problems support the advocates of wide spacing.

Officials of the Department of Conservation are working with operators and land owners in an effort to carry out the development along well-regulated lines. With the exception of a limited number of leases of over 40 acres outside the block, most of the permits will be issued for tracts in which ownership has been pooled. At this time some blocks are being assembled by land owners, who are combining their smaller lots and sharing in lease and royalty income according to their respective interests in acreage. They offer a precedent which may well be followed by all land owners in the area.

A problem which comes immediately to the attention of those under whose control the drilling will proceed, is that of drilling submerged acreage under Cross Lake. The lake is the source of Shreve-



Shreveport discovery and surrounding area

port, Bossier City and Barksdale field water supplies, and drilling on its shallow bed will proceed only with the strict guarantee that no pollution will result.

Due to the proximity of the discovery well to the lake, numerous tracts bordering its shore have been leased, and their drilling in many cases will depend on execution of a unitization plan. The regular spacing of wells in the centers of 40-acre tracts will in many cases call for drilling in the lake bed, in order that no discrimination be made against shoreline land owners in contrast to those whose required units lie adjoining, but outside the lake boundaries.

No announcement for bids for lake bed leases has been made by the state, which holds mineral rights under the body. The state has, however, asked for bids on tracts along Cross Bayou, below the dam where pollution is not so vital a factor.

If the field is extended to include the bed of Cross Lake, drilling in the lake without causing pollution is considered possible by some engineers. In such cases, a suitable area around the drilling well can be enclosed by metal sheathing driven into the shallow lake bed, sealing the drilling area from surrounding water. Considerable care would be required in disposing of all waste within the enclosed area to preclude contamination.

While submerged drilling has been carried on successfully in other areas, the pollution restrictions in this case, where a municipal water supply is jeopardized, would necessarily be very stringent. Such precautions would add further to the cost of drilling, and 40-acre spacing may not be considered feasible for such operations. The problem will come up soon, however, since permits granted on 40-acre tracts bordering the lake will call for similar treatment for adjacent units lying either partly or wholly within the bounds of the lake.

There is a possibility that the field, however large it may prove to be, may require considerable time in developing. To date, the discovery well has not secured an outlet for its production, although several pipe lines traverse the immediate vicinity. This reluctance on the part of pipe line operators to serve the area is understandable in the present crude situation. Established fields in the district are being prorated by reduced pipe line takings, and the development of any large amount of flush production in the new field would tend to aggravate the current situation of oversupply.

The policy of crude purchasers in the district, calling for ratable taking from fields as well as leases, will eventually bring a market for the new crude.

In developing the possible proven acreage within the city limits, it has been suggested that the city pool its streets and alleys together with lot owners, and that the income from each 40-acre tract be divided ratably according to the individual shares of acreage. In allowing the drilling on city sites, the city government may suggest additional rules to guarantee control of pressures, and prevention of pollution and other conditions considered hazardous in concentrated residential or business districts.

Madison Trial

(Continued from Page 32)

The government's brief, the attorney noted, had charged that the court "arbitrarily overlooked" a large volume of evidence against the defendants he discharged, but Lewin "didn't say it to your honor's face." And as to Judge Stone's order of discharge, he said, "no other conclusion would have squared with your conscience."

Lewin, arising for a heated reply, expressed himself as "indignant" and "shocked" at Kirkland's statements.

"In default of law and authority," he charged, "counsel makes a personal appeal to your honor. He tries to poison your honor's mind against us."

"Unfair and insidious," he said of Kirkland's statement that the government would not utter to the court's face the arguments in its brief.

The defense, he charged, "throws bouquets at you in lieu of legal arguments."

It has always been the government's contention, throughout the case, that the evidence was overwhelming against all the defendants, he explained, and he cited particularly that against Arthur V. Bourque, secretary of the Western Petroleum Refiners Association, whom the court dismissed, he said, in spite of the testimony that Bourque attended meeting after meeting, and furnished lists of surplus gasoline sources in connection with the alleged conspiracy to "rig" the market through purchases from independent refiners at "arbitrary" prices.

He also denied that the government had delayed in protesting the court's order.

"I never dreamed of any such action until the decision was announced on July 19," he said. "I never thought before that your honor would do more than grant a new trial to some of the defendants."

Lewin charged that all of the cases cited by Kirkland were civil rather than criminal actions and did not apply to the issues involved here.

Francis, on the other hand, supported Judge Stone's action as a fundamental right exercised by the courts since the days of John Marshall, the first chief justice of the land, and he specified one case in which the U. S. Supreme Court directed the lower court to dismiss the case entirely and not merely to grant a new trial.

Editorial Expressions

MILWAUKEE SENTINEL: The public impression that the verdicts were in contradiction of the factual record has been given strong substantiation. Reversing the verdicts against 25 of the 30 convicted individuals and four of the 16 companies, Federal Judge Patrick T. Stone held there was "no substantial evidence in the record fairly tending to sustain the verdict of guilty. There is good reason to believe that certain defendants have not had an adequate separate consideration of their defense in view of the fact that as to some of them direct evidence of participation was lacking or slight."

This tends to confirm the widely held public opinion that the government case was without a sound basis. As the public has understood, the practices of these companies which the government sought to punish had at one time been required by the government. It was invalidation by the courts of the government's attempt to prescribe these very practices by law that precipitated the prosecution of the companies by the government for maintaining the very practices the government had required.

All standards of fair play necessitated disposition of the oil cases through conference and compromise. The urgent responsibility of the government was to assist by all reasonable means the restoration of orderly conditions in the industry.

The government acted with apparent disregard of the simple elements of justice, as most of the country then believed; and with a weak and insupportable basis for its prosecution, as the country then suspected and is now seemingly confirmed in that suspicion. The government should not be the unjust persecutor of industry in any case, as the majority opinion of the country believed it has been in the oil trials.

HOUSTON POST: The oil conspiracy case which dragged through a Federal court at Madison, Wis., for several months was widely ballyhooed as a major New Deal assault upon monopoly and monopolistic practices.

The public, which paid no attention whatever to the intricate evidence which required months for presentation in court, accepted the verdict of the jury finding some oil companies and individuals guilty as evidence of wrongdoing on the part of both the oil industry and high officials.

The guilty verdict was given the most widespread publicity. Other developments in the case, including dismissal of most of the charges and statements by Judge Patrick T. Stone, which might be construed as indicating doubt as to the propriety of the entire proceeding, have received but little attention.

It seems that the Department of Justice should bear in mind Judge Stone's admonition that it has the choice of filing civil or criminal proceedings in antitrust cases. Criminal charges should be filed only when the facts are air-tight. Otherwise, the judge may be forced, as Judge Stone was, to step in to prevent "any miscarriage of justice."

The Forest City Basin

(Continued from Page 29)

may be expected to be petrolific, principally at its base. The lower members—the Platteville and the Glenwood—probably are equivalent to the Simpson. The upper members—the Maquoketa and the Galena—constitute the local representation of the Sylvan and Viola, respectively. Oil shows have been reported in this division in wells drilled at Gallatin, Breckenridge, Moberly, and Savannah, in Missouri, and at Nebraska City, in Nebraska, and at Clarinda, in Iowa. Also in a recent test drilled 10 miles southeast of Humbolt, Neb.

Silurian.—Average thickness about 300 feet. Chiefly dolomite, but contains shales and sandstones locally over a considerable part of the basinal area. The base of this division can be understood to be petrolific over most of this area. Oil or asphaltic shows, or gas, have been reported from this division over most of this area, at Chillicothe, Savannah, Breckenridge, and Gallatin, in Missouri, and at Stuart and Clarinda, in Iowa.

Devonian.—Average thickness about 200 feet. Chiefly limestone, with some dolomite, and locally including shales and sandstone. Several shows have been reported from this division in this area.

Mississippian. — Thickness about 400 feet. Chiefly limestone, but with sandstone and shale locally. So far the knowledge of the writer goes no shows have been reported in this division of rocks, in this area, except in the test recently drilled southeast of Humboldt, Neb., and an old test in western central Miami County, Kansas.

Pennsylvanian.—This division is unquestionably petrolific over most of the basin area, but from Kansas City, north, it is indicated that all such oil as is of indigenous origin will be found to be heavy and undesirable, and like such production as now exists here. Small gas wells produce from these formations here, and more important producers of gas may yet be realized. The probability of finding heavy oil only, in these formations, is much less in Kansas, west of the ninety-fifth meridian.

There is one notable feature of difference between the Illinois and Forest City basins—this is that while the deepest part of the Illinois basin is near the south end of the La Salle axis, the greatest depths in this basin are near the north end of the Nemaha axis, in extreme northwestern Missouri and southwestern Iowa.

Because of the glacial overburden which covers most of the area of this basin, and in the light of a knowledge of the regional complexities here, the most sapient advice which may be given the intending prospector here is that such prospecting should be guided by the modern geophysical methods now in use. It is critically necessary here, and the recent history of oil development in the Illinois basin should be all that is necessary to justify its use in this, a twin basin to that of Illinois.

It will be interesting to note what will happen when the Mid-Continent oil industry returns to this, its "mother basin," the old homestead, as it were, and undertakes to develop its neglected resources.

STATE CAPITALS

TEXAS

CALL FOR THE SEPTEMBER proration hearing before the railroad commission was issued by Chairman C. V. Terrell for August 19.

The commission has given notice of a hearing at Austin, August 16, on the Agua Dulce field in Nueces County, on whether new rules designed to prevent blowouts should be adopted. A hearing will be held at Austin, August 22, on the Duster area of Comanche County to determine whether this is a separate producing area. A hearing to determine whether the casing program in Turkey Creek should be modified for wells in the 2,800-foot horizon was called for August 24, at Austin.

The commission has promulgated a 933-466 spacing rule for the Kubela field in Wharton County. Allowable is to be distributed on a basis of 50 per cent to acreage, and 50 to the well. The casing program calls for pipe tested to 1,000 pounds, cemented not higher than 1,200 feet below the surface with 30 sacks. The producing string shall be tested to 2,000 pounds and cemented with 300 sacks. Fittings are to be tested to 2,000 pounds working pressure. A gas-oil ratio of 2,000/1 with a displacement factor is prescribed. Potentials are to be taken through an eighth-inch choke, 6 inches long.

Special field rules were announced for the Walnut Bend oil field in Cooke County. Ten-acre spacing is ordered for the field with production allocation based half on acreage and half on wells, and an oil-gas ratio of 2,000 feet to a barrel of oil. There is also a gas displacement rule.

A RENEWED REQUEST for a special session of the legislature, to repeal the 7,000-pound truck load limit law, was brought to Austin by Representative Homer Leonard of McAllen. Pessimistic over the chances of getting a session, Mr. Leonard said sentiment was never stronger for repeal of the load limit law.

OKLAHOMA

THE CORPORATION COMMISSION has set the hearing to determine the September market demand for Oklahoma crude oil for August 25, to be held at the state capitol in Oklahoma City. The August allowable is 428,000 bbls. daily.

HEARING ON APPLICATION of Forest Producing Corp. for authority to prosecute waterflood in Nowata County, Oklahoma, has been set for August 24 before the corporation commission in Oklahoma City. The Forest company, which already has several water-floods in progress in the Nowata field, wants to include the S half NE and N half N half SE section 17-26-16, approximately 120 acres, in its flooding project. Wells on the leases in question now produce at the rate of about one-half barrel of oil daily, according to the company's petition. It is the plan to increase production by the water-drive method in the Bartlesville sand zone.

A similar petition of Shell Petroleum Corp. for permission to apply water flood in Rogers County has been set for hearing August 24. The area involved is NE NE NE section 30-24-17, a tract on which oil development began in 1905 and on which there are 24 producing wells.

Amerada Petroleum Corp. has applied for permit to flood properties in the Stillwater pool, Payne County, in sections 27, 28, 33 and 34-19-3e. Hearing has been set for September 6, before the corporation commission.

Acreage including the Stillwater pool is owned by the Gulf, Stanolind, Amerada and H. F. Wilcox companies. Three producing wells in the pool have average daily yield of 152 bbls. of oil and 120 bbls. of water, the petitioner sets out.

It is the plan to inject water produced from the oil wells into the producing sands through a non-producing well, thus increasing production of oil from the three oil wells.

LOUISIANA

THE DEPARTMENT OF CONSERVATION will hold a hearing in Baton Rouge on August 12 to consider rulings for development of the newly opened oil field on the outskirts of Shreveport. The most important phase of the hearing will be the testimony regarding a spacing rule for the field. Due to the character of the producing horizon, the depth, and expense of drilling, a 40-acre spacing has been agreed upon as the most efficient pattern for drilling. However, landowners and civic groups in Shreveport are objecting to the wide spacing, and considerable agitation for a 10-acre ruling is under way. The greater portion of the area near the well is divided into small lots, within and without the city limits.

THE STATE CONSERVATION Department will be requested to set a spacing rule of 80 acres for oil producers from the Lower Marine zone in the Cotton Valley field of Webster Parish by field operators who met at Shreveport to discuss this and several other regulations. Frank Pickell of Stanolind Oil & Gas Co. presided.

A proposal to the commission that the various oil-producing Lower Marine sands should be considered as one horizon, was also favored by most of the operators. This would allow operators to produce oil from more than one sand in the same string of casing, due to the heavy cost of drilling in the deep area.

The operators will also petition the commission to maintain the allowable as high as possible, up to the temporary 700-bbl. mark, if feasible. A report at the meeting was to the effect that the allowable would be cut to 400 bbls. per day per well. Two oil producers have been completed from the zone to date.

The commission will be asked to call a hearing on the spacing and other regulations within two or three weeks. Many operators pointed out during the meeting that the cost of drilling a well in the deep area ranged from $150,000 upward and made the 80-acre spacing necessary to obtain returns from investments.

CALIFORNIA

RESULTS OF THE ANNUAL ELECTION held recently in each California field to designate representatives of producers in the curtailment program have been concluded for another year. To take care of curtailment problems in the Venice district, Laurence C. Kelly has been elected chairman and Elmer Bolton, vice chairman. Assisting them will be E. D. Hardison and D. L. Caldwell. For the Inglewood-Potrero district Joseph Jensen has been elected chairman and R. I. Brown, vice chairman. Other results show that problems in the Santa Barbara area will be taken care of by R. A. Broomfield, chairman; L. L. Aubert, vice chairman, and D. L. Caldwell, secretary; and Henry Power, J. C. Burks, William L. Hobro and Fred E. Cole. Torrance-Hermosa-Rosecrans-Lawndale, W. H. Wilhelm, chairman, succeeding Fred Sealey; W. C. Whaley, vice chairman; E. Robert Burns, secretary; and H. F. Powers, L. R. Rogers, E. H. Grubb, R. I. Brown, S. McIntyre, E. D. Hardison and J. H. Splittsoesser. El Segundo, R. R. Boyd, chairman; J. H. Hodgson, vice chairman. Poso Creek-Round Mountain-Coffee Canyon, J. L. Stevens, chairman, and D. L. Caldwell, vice chairman. The annual election was conducted by the Central Committee of California Oil Producers of which Lawrence Vander Leck is chairman. These key men in each field are charged with the responsibility of supervising curtailment, ironing out any difficulty that may arise, determining the method of curtailment and attempting to make curtailment as effective as possible. Their principal problem will arise next winter when the allowable production will be severely reduced in order to balance supply and demand.

KANSAS

GOV. WALTER A. HUXMAN, in his monthly radio address, demanded revision of the Interstate Oil Compact "to create an agency with power to equitably allocate markets as well as to sit around and discuss oil problems."

He said the troubles of Kansas oil men could be summed up in that "producers cannot find purchasers who will buy enough oil to make producing operations what they should be. Government intervention ultimately must come unless the industry and the states make a fair solution of this problem. Unless we can get fair share of the available market, skimming plants and cut-throat competition is bound to enter as it did in the East Texas field during its early days. This, in the end, will be detrimental to the producing companies and will do no one any good."

The governor defended the state corporation commission and denied there was any attempt to "sell out Kansas oil men to Oklahoma." The oil market is "inequitably distributed" among the oil producing states, and there is "no power in our state to correct this condition," he said. "There isn't sufficient pipe line capacity in Kansas to carry anywhere near the production we now have. The corporation commission cannot create a market or compel any purchasing company to buy Kansas oil.

"Contrary to the opinion of many, the Interstate Oil Compact Commission has no power to allocate markets. It has no power to make enforceable decrees or orders upon any state. I think the present Interstate Oil Compact Commission has outlived its usefulness and if it is going to continue to function it must be granted additional powers."

APPROVING PETROLEUM INDUSTRY EXHIBIT

The board of directors of the Petroleum Industry Exhibition meet to approve final plans for the building and exhibits of the industry at the New York World's Fair 1939. Seated—C. H. Hathaway, assistant to president, Gulf Oil Corp.; S. W. Candee, director of personnel, Tide Water Associated Oil Co.; W. C. Burns, president of Richfield Oil Corp. of New York; E. E. Puryear, assistant to the president Texas Co.; T. H. Taylor, assistant to president, Standard Oil Co. of New Jersey and President of the Exhibition Board; D. T. Pierce, assistant to the chairman of executive committee, Sinclair Refining Co.; W. C. Pew, vice president, Sun Oil Co.; R. E. Wilson, president, American Oil Co.; and H. B. Stone, general manager, New York State division, Atlantic Refining Co. Standing are members of the board of design: Bernard Lichtenberg, Institute of Public Relations; Perry Coke Smith and Ralph Walker of Voorhees, Gmelin & Walker, architects for the Petroleum Building; and Gilbert Hohde, designer of the exhibits.

Other members of the board of directors who attended were: H. D. Frueauff, vice president, Cities Service Oil Co.; R. R. Griffin, vice president Shell Union Oil Corp.; B. Brewster Jennings, assistant to president, Socony-Vacuum Oil Co., Inc.; H. B. Stone, general manager, New York State division, Atlantic Refining Co.; L. S. Wescoat, vice president and secretary, Pure Oil Co.

Upward Trend in Drilling Reported in Texas Fields

AUSTIN, Tex.—An upward trend in drilling permits was noted by the oil and gas division of the railroad commission, a total of 309 new wells being planned, an increase of 61. On the Texas Gulf Coast locations were made for 94 wells, Refugio County getting 22 locations and Harris County 21. In North Texas there were 74 locations largely centered in the new KMA field. Total for Wichita County was 58.

Marland Makes Preparations For Governors Conference

Plans for a conference of governors in Tulsa and in Oklahoma City, beginning September 26, were discussed at a conference in Governor Marland's office. The governor invited representatives of the chambers of commerce and hotels in the two cities to confer with him. The meeting is expected to open in Oklahoma City September 26, and will be held in Tulsa the next two days.

Canadian Petroleum Imports

OTTAWA, Ontario.—Petroleum, asphalt and their products imported into Canada in May were valued at $6,693,603 compared with $2,540,128 in April. Imports of crude petroleum in May were: From United States, 86,200,819 gallons; Colombia, 32,119,000 gallons; Venezuela, 9,742,000 gallons; Peru, 5,328,000 gallons. April imports were: United States, 37,238,662; Colombia, 6,924,000; Venezuela, 3,793,000; Peru, 3,748,000.

New auto-plane-motorboat will travel 24 knots in water, 60 miles an hour on the road, and 120 miles an hour in the air.

Obituaries

GEORGE F. HENDERSON, K.C., 74, for some years natural gas referee for Ontario, died at Ottawa recently.

HENRY LAIDLAW, of Detroit, Mich., widely known among pump users in the oil industry, died recently at Kingsville, Ontario, Canada, from a heart ailment. He was sales manager of the Worthington Pump & Machinery Corp. until 1927, when he was made special representative.

JOHN WOODWARD, 83, of Oil Springs, Ontario, prominent driller, died recently.

FLOYD SCHAFFER, 30, geologist for Phillips Petroleum Co., drowned in a lake near Ardmore, Okla., last week when a sailboat capsized.

CHARLES W. BLOEMER, 54, Bakersfield oil company executive, slumped over the wheel of his automobile, dead of a heart attack, near Van Nuys. In recent years he was connected with General Petroleum Co.

Canadian Gasoline Figures

OTTAWA, Ontario.—With New Brunswick and British Columbia not reporting, four Canadian provinces showed increased gasoline sales in April over the same month last year, while Prince Edward Island, Saskatchewan and Alberta showed declines. For the four months' period of each year, Nova Scotia, Quebec, Manitoba and Ontario showed gains, and the same provinces showed declines.

Imports of natural casinghead, compression or absorption gasoline lighter than .6690 gravity in May totaled 7,577,032 gallons valued at $407,352 of which 2,171,278 gallons at $132,726 came from the United States and the remainder from Peru. April imports, 1,891,294 gallons at $128,031, all came from the United States. Imports of gasoline lighter than .8236 gravity, all from the United States, were 9,848,344 gallons at $683,738 in May against 1,895,855 gallons at $155,670 in April.

Exports of gasoline and naphtha from Canada in May were 8,936 gallons at $2,203 against 16 gallons at $7 in April.

Gasoline Taxes Held for Unemployment Loans

LOS ANGELES, Calif.—Gasoline-tax funds totaling $481,921 have been withheld from 12 California counties to be applied to loans made by them to the state in 1933 for unemployment relief, State Controller Harry B. Riley announced.

The largest loss was suffered by Los Angeles County, with $380,669 deducted from its current quarterly apportionment of $1,361,311.

Cut Bank Lease Auction Set for September 22

WASHINGTON, D. C.—The general land office has announced a public auction of oil and gas leases on approximately 400 acres of public land in the Cut Bank oil and gas field of Montana.

The property lies 15 miles south of the Canadian line in Toole and Glacier counties. The auction will be at 10 a.m. on September 22 in the land office at Great Falls, Mont.

High-Octane Fuel Gives Wings to Researchers

Scientists are putting wings on their laboratories and doing researching in the air. One flew with five companions to New Guinea recently in a specially-equipped twin-motored hydroplane. From across 2,300 miles of open ocean he hopes to bring back plant and animal specimens.

It's no trick at all to hop an ocean in a high-powered hydroplane that zooms along on high-octane fuel and lands in any harbor. Flying travelers have easy access to the leading countries of the world over an air-route network of 300,000 miles. Over these aerial highways, many of them unchartered 20 years ago, passengers, mail and freight rolled up 200,000,000 flying miles in 1937. Superior fuels, powerful engines, fast and frequent service from centralized airports are putting plenty of scientific progress into civil aviation.

THE MARKETS*

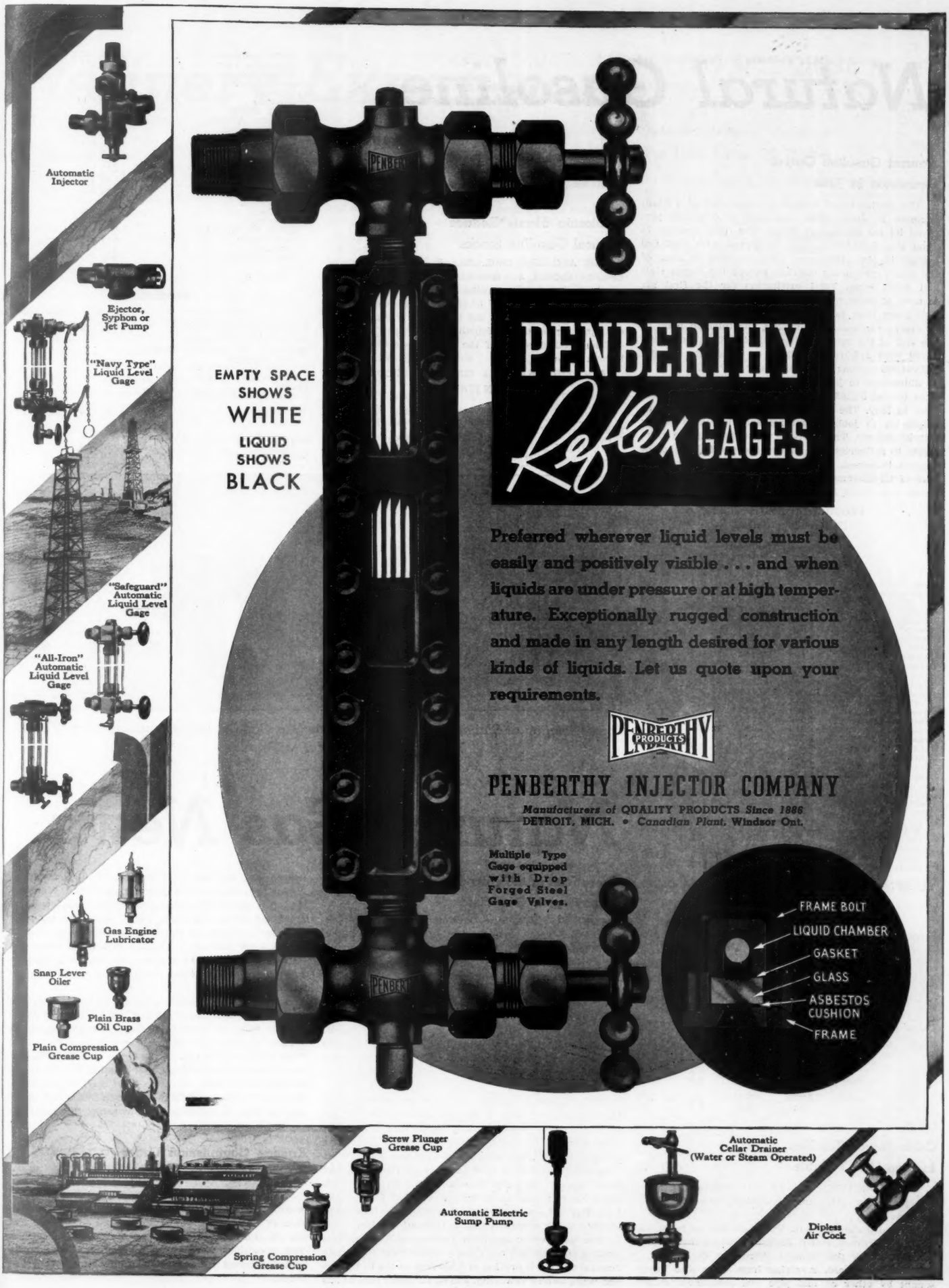
CRUDE OIL: *Large buyer reduces prices 15 cents per barrel in congested part of Centralia, Ill., field due to competitive conditions. In Michigan schedule in one field advanced 10 cents per barrel. Recent sales in tanker lots indicate weakness in East Texas crude oil.*

REFINERY: *Mid-Continent natural gasoline advance. No general changes in refinery gasolines. Heavy fuel oils weak on West Coast with few indications of strength in other areas. Pennsylvania bright stocks and neutral oils advance.*

TANK-WAGON AND POSTED DEALER: *Price-wars have brought price reductions in gasoline tank-wagon postings at several points. Scattered reductions in kerosene tank-wagon schedules.*

FINANCIAL: *Oil stocks did not keep pace with advances in general market. Average of 30 representative stocks for week ending August 3: High, 29.50; low, 28.76; close, 29.18. Week ending July 30: High, 32.64; low, 30.76; close, 31.32.*

**Detailed information in market section.*


Automatic Injector
Ejector, Syphon or Jet Pump
"Navy Type" Liquid Level Gage
"Safeguard" Automatic Liquid Level Gage
"All-Iron" Automatic Liquid Level Gage
Gas Engine Lubricator
Snap Lever Oiler
Plain Brass Oil Cup
Plain Compression Grease Cup
Screw Plunger Grease Cup
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Natural Gasoline

Natural Gasoline Output Decreases in June

The production of natural gasoline showed a slight decrease in June, 1938, according to a report prepared by the Bureau of Mines. The daily average in June was 5,601,000 gallons compared with 5,685,000 gallons in May. Decreases were recorded in most of the major producing districts except the Texas Gulf and East Texas. Total production for the first six months of 1938 was 1,046,598,000 gallons, or 8 per cent more than for the same period in 1937.

Stocks continued to increase, the total on hand at the end of the month being 291,942,000 gallons, compared with 275,016,000 gallons on hand May 31 and 262,794,000 gallons in storage June 30, 1937.

Shipments to jobbers and retailers and exports in June totaled 32,298,000 gallons, or 462,000 gallons less than in May. The decline was entirely in exports as shipments to jobbers and retailers increased nearly 400,000 gallons. The average vapor pressure of shipments to refineries and jobbers decreased, but that of exports increased. The weighted average vapor pressure of all movements in June was 18.6 pounds compared with 19 in May.

PRODUCTION AND STOCKS
(Thousands of gallons)

	Production			Stocks June 30, 1938, at refineries
	June, 1938	Jan.-June, 1938	Jan.-June, 1938	
East Coast	.....	.....	.....	3,906
Appalachian	4,122	35,396	38,992	630
Ill., Mich., Ky.	1,019	6,038	5,955	4,032
Oklahoma	36,702	239,041	226,237	2,226
Oklahoma City	11,199	74,085	73,794	.....
Osage County	4,020	24,253	24,542	.....
Seminole	8,954	60,474	57,520	.....
Rest of State	12,529	80,229	70,381	.....
Kansas	4,192	27,150	27,662	.....
Texas	52,525	316,641	280,852	9,114
Gulf	5,435	25,921	13,308	8,190
East Texas	15,494	90,790	86,195	.....
Panhandle	17,368	115,141	103,807	.....
North Texas	2,112	12,581	13,163	.....
West Central	5,468	34,090	34,800	.....
Rest of State	6,648	38,118	29,579	.....
Louisiana	7,210	43,091	46,331	42
Arkansas	1,725	11,030	5,505	294
Rocky Mountain	6,423	37,080	34,026	4,452
California	54,124	331,131	299,306	129,360
Huntington B'ch.	3,546	21,309	20,676	.....
Kettleman Hills	14,927	91,703	88,691	.....
Long Beach	7,968	44,911	42,363	.....
Santa Fe Springs	5,290	32,436	28,319	.....
Ventura Avenue	4,617	28,389	26,264	.....
Rest of State	17,776	112,383	92,993	.....
Total	168,042	1,046,598	964,866	154,056
Daily avg.	5,601	5,782	5,331	.....
Total (thousands of bbls.)	4,001	24,919	22,973	3,668
Daily avg.	133	138	127	.....

RECEIPTS AND DELIVERIES OF NATURAL GASOLINE BY DISTRICTS, JUNE, 1938
(Thousands of gallons)

	Deliveries		Receipts	
	To refineries	Exports	At refinery-owned bulk plants	By jobbers and retailers
East Coast	.....	.....	16	28
Appalachian	2,429	73	363	1,201
Ind., Ill., Ky., etc.	754	.....	841	3,237
Oklahoma	25,763	48	56	1,062
Kans., Mo., etc.	2,751	.....	269	428
Texas Inland	27,788	81		
Texas Gulf	3,841	17,984	385	3,290
La. and Ark.	5,445		8	1,287
Rocky Mountain	3,627	.....	36	167
California	50,914	2,604	.....	808
Total	123,312	20,790	1,974	11,508
Daily average	4,110	693	66	384
Total (thousands of bbls.)	2,936	495	47	274
Average v.p.	19.1	18.3	12.3	14.3

Casinghead Gasoline In Pipe Line Taxable

LOS ANGELES, Aug. 10. — Casinghead gasoline transported by pipe line is taxable under the 1932 Revenue Act.

Federal Judge Leon R. Yankwich has so ruled, in a $6,194 recovery action brought against the federal government by the General Petroleum Co.

In the test case, involving huge sums also being sought by other oil and pipe line companies, Judge Yankwich held that "congress intended to designate by the words 'crude petroleum' all the hydrocarbon substances, whether in liquid, solid or gaseous form."

California Plants Reduce Natural Gasoline Stocks

LOS ANGELES, Calif., Aug. 8.—Stocks of natural gasoline showed a substantial decline at California plants during June according to the Bureau of Mines. In this period a total of 54,124,312 gallons of natural gasoline were produced, the Kettleman Hills field accounting for about one-fourth of the entire quantity.

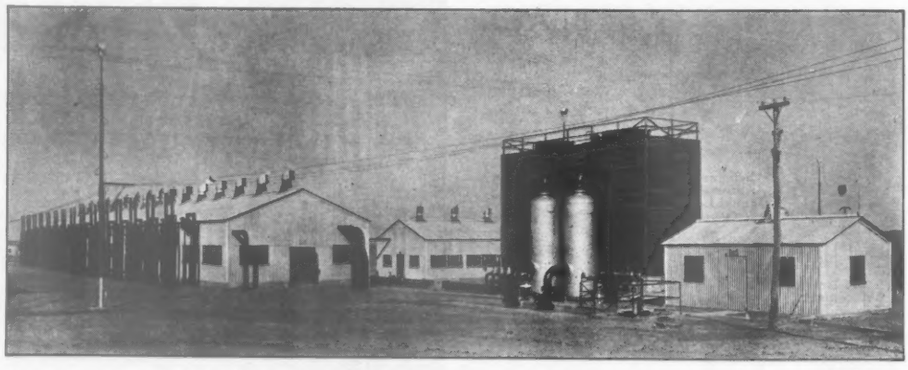
The detailed report of the California offices of the bureau follows:

CALIFORNIA NATURAL GASOLINE PRODUCTION IN JUNE

Field—	Gas treated (thousand cu. ft.)	Natural gasoline produced (gallons)
San Joaquin Valley:		
Belridge	3,244,278	2,053,734
Elk Hills	55,024	121,065
Kettleman Hills	9,017,279	14,926,641
Midway-Sunset	1,112,367	2,386,002
Mountain View	400,971	513,609
Miscellaneous	1,011,497	708,905
Coastal district:		
Elwood	654,911	813,782
Rincon	183,816	230,389
Santa Maria	131,161	480,001
Ventura Avenue	3,082,879	4,617,070
Miscellaneous	482,883	487,081
Los Angeles Basin:		
Brea-Olinda Coyote	468,007	1,239,615
Dominguez	1,805,501	2,934,142
El Segundo	411,716	664,650
Huntington Beach	1,233,437	3,546,374
Inglewood	275,464	384,659
Long Beach	2,173,443	7,968,477
Montebello	353,963	510,331
Richfield	285,162	554,887
Rosecrans	409,299	757,062
Santa Fe Springs	1,771,421	5,290,001
Seal Beach	444,784	595,655
Torrance	216,470	389,006
Miscellaneous	835,077	1,951,084
Total (all fields)	30,060,810	54,124,312

Distribution

	(Gallons)	(Gallons)
Stocks beginning of month	2,370,907	
Production during month	54,124,312	
Delivered to refineries		53,518,426
Delivered to jobbers, brokers and blenders		801,582
Blended at plants for production of motor fuel		6,529
Losses		129,129
Stocks end of month		2,039,553
Total	56,495,219	56,495,219
	(Gallons)	(Gallons)
Liquefied petroleum gas production	2,154,524	51,298
Motor fuel produced	10,620	253



Booster station at Shamrock, Tex., on the Lone Star Gas Co. system running from Wheeler County, Texas, to Petrolia

Natural Gas News

Operations in the New York and Pennsylvania Gas Fields

COUDERSPORT, Pa.—Developments in the New York-Pennsylvania deep sand gas fields were without great moment during the past week. There were no completions nor new locations reported for the period.

McKenry and others have resumed drilling their wildcat on the Stellman farm in Rockland Township, Venango County, and were reported down to 4,733 feet. A hard chert formation, believed to be in the Onondaga, is slowing progress on this interesting experiment. Another Pennsylvania wildcat which is holding its share of interest is the Updegraph test on the O. E. Erickson farm in Elk Township, Warren County, which is cleaning out at 5,232 feet.

Williamsport Oil & Gas Co. has resumed drilling on the U. B. Russell farm in Sharon Township, one of the several current Potter County operations, and is at 5,050 feet. G. L. Cabot, Inc., is drilling at 5,110 feet on the Whitney Duke farm and at 4,281 feet on the West Bingham Grange farm, both in Bingham Township. The latter topped the Tully lime at 4,240 feet. New York State Natural Gas Co. is drilling at 1,585 feet on the L. E. Hanes farm in Harrison Township, the lone other Potter County operation that is currently active.

The only other northern Pennsylvania operations drilling are both in Tioga County where New York State Natural Gas Co. is drilling at 5,320 feet on the L. Dickerson farm, Gaines Township, and G. L. Cabot, Inc., at 320 feet on the Flora Bell Joy farm, Brookfield Township.

All operations in the speedily developed Woodhull field in Woodhull Township, Steuben County, New York, are being drilled by G. L. Cabot, Inc. The company has a new location on the Charles Crane farm, is drilling at 4,409 feet on the Coral Cook farm where the Onondaga was reached at 4,381 feet, and is drilling at 2,850 feet on the Gibson farm where the Tully was found at 2,770 feet.

In the Willing Township, Allegany County area, Van Gelder and others are drilling at 4,155 feet after reaching the Tully at 4,114 feet. Empire Producing Co. is drilling at 2,413 feet on the Floyd Wilson farm, and Penn York at 1,274 feet on the Cyrus Wilson farm. Belmont Quadrangle Drilling Co. is building the rig on the Hilligas No. 2 farm, elevation 2,234 feet, in this township, and is also building the rig for a test on the A. H. Billings farm in Independence Township, this county.

Kansas Commission Order On Production of Gas

The Kansas State Corporation Commission has fixed August gas allowable of 425,000,000 feet for the Otis field of Rush and Barton counties and 165,000,000 feet for the Burrton field of Reno and Harvey counties. The allowables were based on market demand estimated received by the commission at a hearing last month.

Refinery Expansion

Start Construction on Inland Empire Plant

SPOKANE, Wash., Aug. 8.—Preliminiary excavation and foundation work on the Inland Empire Refineries, Inc., here started this week under the supervision of the Winkler-Koch Engineering Co., of Wichita, Kans., contractor for the construction of the plant. Present plans call for the refinery to be ready for operation by November 1.

The refinery, which will have a daily capacity of 2,200 bbls., will cost in the neighborhood of $522,000. It will be a modern type vapor phase cracking plant. Crude will be furnished by the Glacier Production Co. from that company's producing properties in the Cut Bank field, in Glacier County, northern Montana. Operators expect to start moving crude to storage for the plant about the middle of October.

Some 150 men will be employed in the actual construction of the Spokane refinery which will employ around 50 to 60 men regularly when placed in operation. Location of plant is near Hillyard east of the city of Spokane proper. A 1,500-foot siding has been laid to the refinery site by the Great Northern Railroad to facilitate handling of the building materials. A total of 130 acres has been acquired for the refinery site of which some 50 acres will be utilized in the plant equipment and tank farm area. Construction is in charge of Roy E. Davis, engineer for the Winkler-Koch interests.

The Inland Empire Refineries is also owner of the refinery recently constructed at Pocatello, Idaho, for operation on Cut Bank crude oil.

Continental Oil Repairing Tanks at Glenrock Plant

GLENROCK, Colo., Aug. 8.—Continental Oil Co. is reconditioning all tankage at its local refinery and is constructing two 80,000-bbl. tanks in the Lance Creek field in preparation of the company laying a pipe line from that field to Denver. The line will supply the Bay Petroleum Co.'s refineries at Cheyenne and Denver as well as its plant at Denver.

Imperial Oil, Ltd., Building Two Large Lake Tankers

TORONTO, Ontario, Aug. 6.—Two new tankers, being built for Imperial Oil, Ltd., one at Sorel, Quebec, and one at Collingwood, Ontario, will be launched toward the end of August. Each is of 420,000 gallons capacity and cost around $450,000. The Imperial company, through its subsidiary, Imperial Oil Shipping Co., now owns and operates a fleet of 11 tankers on the Great Lakes.

New Refinery Planned For Turner Valley Field

CALGARY, Alberta, Aug. 6.—Daviess Petroleums, Ltd., headed by Maynard J. Davies, which now has two producing wells in Turner Valley, is negotiating for the erection of a small refinery to handle its crude output.

Arkansas-Louisiana Refiners to Meet

SHREVEPORT, La., Aug. 8.—The August technical meeting of the Ark-La-Tex division of the Western Petroleum Refiners Association will be held at the Washington-Youree Hotel next Friday afternoon at 4 o'clock.

Frank J. Welu, division manager of the Western Sand-Banum Co., of Houston, Tex., will be guest speaker, using as his subject, "Colloids and True Colloids for Water Treating."

The subject, one of real importance to all refiners, has not previously been discussed at the association's group meetings. The speaker will explain in detail the features of colloidal treatment, using samples and technical experiments and tests for illustrations.

Refiners throughout the Ark-La-Tex area, whether members of the association or not, are invited to attend the meetings here Friday.

May Build Refinery at Minot, North Dakota

MINOT, N. Dak.—Final details for the erection of a refinery here are being arranged by Wilfred Nadeau, Cut Bank operator, and president of the Dakota Refining Co., and J. F. McGurren, vice president. Preliminary work on the plant has been virtually completed with Mr. McGurren stating that freight rates have been arranged with the Great Northern Railway to transport crude from the Cut Bank field.

Construction work will be started in 30 days with the plant ready for operation by the latter part of December.

Bids on the construction work have been presented to Mr. Nadeau, as president of the company and plans for the plant have been approved by the Universal Oil Products Co.

Atlantic Refining Contracts For Third Large Oil Tanker

PHILADELPHIA, Pa., Aug. 8.—The Atlantic Refining Co. has awarded to the Worthington Pump & Machinery Corp. the contract for the cargo discharge and circulating pumps for a third 18,500-ton welded tanker to be built at the Sun Shipyards, Chester, Pa. The three 300-horsepower discharge pumps will be of the centrifugal, deep-well type, driven by 2,300-volt explosion-proof motors. Combined capacity will be 630,000 gallon an hour, making it possible for the vessel to unload cargo in approximately 11 hours, about one-third the usual discharge time for a vessel of this size. The main and auxiliary circulating pumps will have a capacity of 522,000 gallons an hour.

Foreign Order for Towers Placed by Standard N. J.

MILWAUKEE, Wis., Aug. 9.—An order for eight oil refinery vessels has been placed by Standard Oil Co. of New Jersey with A. O. Smith Corp., one of the largest orders in months. Four of the vessels are bubble towers and four are separator towers. The former are 85 feet long and 10 feet in diameter and the latter 35 feet long and 11 feet in diameter. These vessels are for shipment to the foreign refineries of Standard Oil.

Pipe Line Activity

Lance Creek and Glenrock Line Bids Called For

With construction under way on Continental Oil Co.'s pipe line from Lance Creek to Denver, the company is preparing to call for bids for its 65-mile line from the field to Glenrock. The line will follow an air line route to the refinery at Glenrock and will consist of 15 miles of 6-inch pipe and 50 miles of 4½-inch O.D. pipe.

The distribution of ownership in the new Lance Creek-Denver pipe line will be Continental Oil Co., 55 per cent; Bay Petroleum Co., 25 per cent; Minnelusa Oil Co., 20 per cent. The pipe order is divided equally between the National Tube Co. and the Republic Steel Corp. The Rocky Mountain Pipe Line Co., the operating concern, will be officered by Continental men. Construction will start shortly after August 5.

Gasoline Line Completed From Lima to Fostoria

CLEVELAND, Ohio.—Construction has been completed on the 8-inch gasoline pipe line for Standard Oil Co. of Ohio from Lima to Fostoria. It connects with an existing 6-inch line from Fostoria, so the company will be in a position to supply gasoline for distribution around Fostoria from either its Toledo or Lima refineries. The project involved an expenditure of approximately $350,000 and includes a pumping station recently completed at Lima.

Through the swamp

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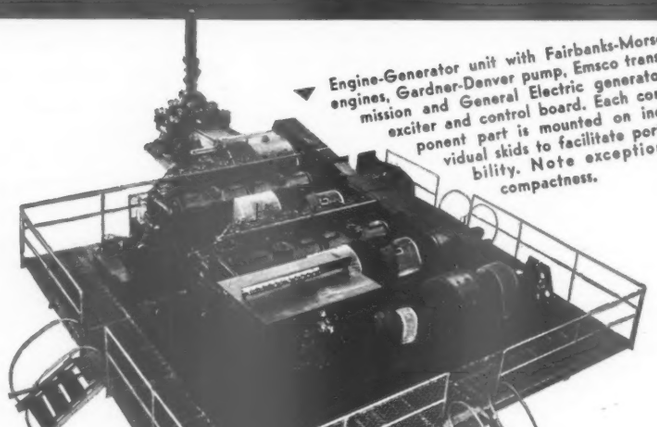
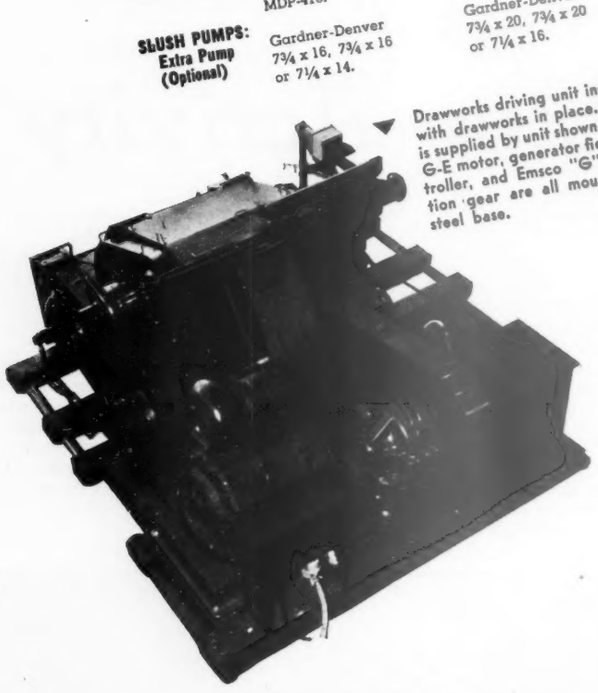
TRANSMISSION:	Emsco Type "J".	Emsco Type "K".
GENERATOR:	General Electric 250 KW, D.C., Type CD-189-A.	General Electric 330 KW, D.C., Type CD-189-A.
DRAWWORKS MOTOR:	G-E 275 Volt, Type MDP-418.	G-E 275 Volt, Type MDP-418.
SLUSH PUMPS: Extra Pump (Optional)	Gardner-Denver 7¾ x 16, 7¾ x 16 or 7¼ x 14.	Gardner-Denver 7¾ x 20, 7¾ x 20 or 7¼ x 16.



Engine-Generator unit with Fairbanks-Morse engines, Gardner-Denver pump, Emsco transmission and General Electric generator, exciter and control board. Each component part is mounted on individual skids to facilitate portability. Note exceptional compactness.



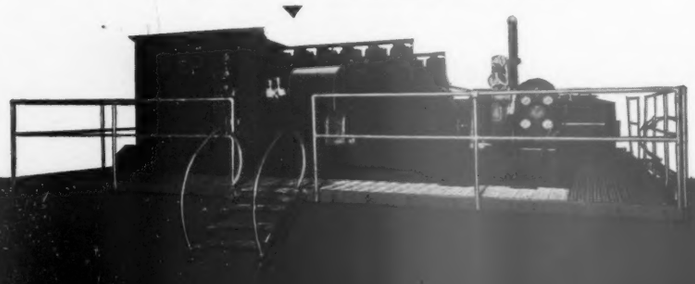
Drawworks driving unit installed with drawworks in place. Power is supplied by unit shown above. G-E motor, generator field controller, and Emsco "G" reduction gear are all mounted on steel base.

Instant starting, stopping, accelerating and reversing ... smoother drilling with Continental JEM and KEM Rotary Rig Drives than ever known before. And the initial cost is much less than completely electrical rigs because of the efficient mechanical pump drive combined with the inherent flexibility of electrical drawworks operation.

Maintenance charges are extremely low—fuel costs are reduced to a minimum. Compact and easily portable, the entire unit is rigged up in short time by the ordinary drilling crew. Electrical connections are made by means of plug-in sockets.

To drill hole-after-hole with greater performance, dependability and economy, ask your Continental representative for complete information

Close-up of generator, exciter and control board. Centralized controls permit operation of engine governor and clutches from one central position.



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The Problem of the Small Tract Under Spacing Regulations

By A. W. WALKER, JR.

When the chairman of the mineral section invited me to deliver a paper upon this occasion he made only two requests: It should not be too long, and it should present a highly controversial subject. I have endeavored to satisfy both requirements. Certainly, the title of my paper demonstrates that I have complied with the second.

The problem of the small tract under spacing regulations is sometimes viewed as if it were an isolated problem. In fact, it is a problem that affects the entire field of successful regulation of the production of oil.

Many people entertain the entirely erroneous idea that most of the problems of the oil industry and of the regulatory agencies have arisen because of the existence of an excessive supply of petroleum. The 15,000,000,000 bbls.[1] of proven oil reserves in the United States are sufficient to supply our needs for only approximately 15 years[2] at the current rate of consumption.

Proven reserves of this limited extent cannot be regarded as excessive; indeed, it is to be hoped that discoveries of new reserves will continue at a pace at least equal to current withdrawals so that our net reserves will not be depleted below the present figure. The principal problems of the oil industry have arisen not because of an excessive supply of petroleum but rather because of the manner in which the underground supply has been haphazardly brought to the surface.

Interrelated Problems

Two interrelated problems of regulation have arisen; the control of the total rate of flow from our underground stocks to the surface for the satisfaction of current needs, and the control of the number of wells drilled into the underground stocks for the removal of current requirements. The first problem has apparently been fairly successfully solved by means of proration, although there are, doubtless, many flaws in this solution requiring further study and correction. The second problem has been attempted to be solved by the wall-spacing regulations.

Considerable progress has been made, but most thoughtful students of the situation agree that the gravest problem facing the industry today is the constantly declining per-well allowable resulting from the fact that the number of wells being drilled is increasing at a more rapid rate than the increase in consumptive demand. It is obvious that there is no correlation between the number of wells drilled and the amount of oil consumed; nor, under proration, does the drilling of new wells increase the total amount of oil produced. Therefore, so long as the drilling of new producing wells proceeds more rapidly than increases in consumption, and, hence, of production, it is inevitable that we must face the prospect of constantly diminishing well allowables.

It is true that this trend will eventually serve to check the drilling of additional wells. When, if ever, the critical point should be reached, where the allowable rate of flow for new wells is so low as to be unattractive to capital investment, drilling will stagnate, or will be diverted to other areas where returns upon drilling investments are more profitable. In addition to this unfortunate result, the disastrous effect that this condition of affairs would have upon the small operator, who has financed his operations from production at the allowable rate prevailing at the time his loans were made, is apparent. No operator could long survive except the large operator with adequate financial resources to weather the long delayed return of his investment.

The biggest problem in the oil industry, therefore, at the present time is not the existence of too much oil but rather of too many wells. This problem has become particularly acute in Texas, and unless the present trend is arrested, threatens to assume grave proportions in the future. It would seem that the present siuation has already become sufficiently serious to require immediate consideration of proper remedies; otherwise, it may be necessary to take more drastic action than shutdowns on Saturdays and Sundays when the low consumption period is reached next winter, or during the winters thereafter. The problem gives every indication of being a long-range one, and one requiring a permanent solution.

Dr. A. W. Walker, Jr., professor of oil and gas law at the University of Texas and president of the Texas Petroleum Council organized in 1933 to cooperate in the enforcement of proration in the Texas fields, was quoted by Judge James A. Veasey, vice president and counsel of the Carter Oil Co., before the Mineral Law Section of the American Bar Association as a "wholly disinterested and especially well informed student of the economic and legal problems of the petroleum industry."

A. W. WALKER, JR.

The reference was to a paper read by Dr. Walker before the Mineral Law Section of the Texas Bar Association on "The Problem of the Small Tract Under Spacing Regulations," the complete text of which appears herewith.

The total number of producing wells in this state has been increasing rapidly for many years. From January, 1929, to January, 1937, the total number of wells increased from 35,750 to 67,784. During 1937 there was a net increase of almost 10,000 wells, there being a total of 77,565 producing wells on January first of this year. By the end of this year it is probable that the figure will be close to 90,000 wells.[3] Indeed, a recent writer has estimated that there are 30,000 wells yet to be drilled in the known proven fields in Texas, not including some fields recently discovered.[4]

On the whole we should not be alarmed but rather proud of these figures for in the main they evidence a healthy and steady growth of the oil industry in this state, particularly insofar as they represent wells necessary for the proper development of the many fine oil fields discovered or in the process of development during the past few years. No sensible person would seriously advocate any slackening of exploratory drilling in the search for new oil fields, nor of any cessation in the drilling of the many wells now needed for the proper development of existing oil fields.

There are not too many proper and necessary wells at the present time, nor is there any immediate danger that there will be too many; but it would appear that a serious effort should be made to check the further drilling of unnecessary wells. If unnecessary wells adversely affected only the operators who used bad judgment in drilling such wells, no one would be particularly concerned in curbing them. Unfortunately, however, this is not the case. Under the present proration system a part of the total state allowable must be allocated to these unnecessary wells which can only be obtained by a deduction of this amount from the allowable that would otherwise be obtained by the necessary wells. The drilling of an unnecessary well in East Texas, as a consequence, has a direct effect upon the allowable of the owner of a necessary well in West Texas and upon the royalty payable to his lessor.

Not only is this true, but another evil has also developed. In order to insure the profitable operation of the unnecessary well, it may be given an allowable entirely disproportionate to the amount of recoverable oil in place beneath the land upon which it is drilled with the result that operators of necessary wells in the same pool are not only forced to curtail their allowable in order to make room for the unnecessary well, but are also compelled to give up some of their oil underground so that its operation may be profitable.

Proper Perspective

I have indulged in this somewhat lengthy introduction to my subject in order to present what appears to me the proper perspective from which to view the general problem of well-spacing and the prevention of unnecessary wells. Too often it has been considered as if it merely involved a clash in interests between small and large operators, or was a purely local problem confined to a particular oil pool or even to a very small portion of an oil pool. It must be obvious that it is a much larger problem. Under proration the drilling of unnecessary wells in any part of the state has a direct effect upon all operators, whether large or small, and upon all royalty owners throughout the entire state. Indeed, all consumers of petroleum products have an interest in the solution of this problem since they will ultimately pay the bill in the form of higher prices resulting from unnecessary expenditures incurred in producing crude oil.

The determination of what constitutes an unnecessary well is a highly controversial subject with reference to which there is a great diversity of opinion. Unnecessary wells undoubtedly fall within two categories. Wells drilled in strict compliance with spacing regulations may in fact be unnecessary wells if a smaller number of wells drilled under a wider spacing pattern would have been adequate to efficiently produce the oil from a particular reservoir.

While the determination of a proper spacing pattern for a particular field involves some legal questions, it is primarily a factual question which only competent petroleum engineers are qualified to solve. With this possible type of unnecessary well this paper will not deal. The courts have many times indicated their willingness to sustain the validity of any spacing regulation having a reasonable factual basis.[5]

Assuming that a proper and legally valid well spacing pattern has been adopted by the administrative agency which will permit the efficient recovery of the oil from a particular field, it is submitted that any well drilled upon a smaller acreage than is contemplated by such spacing rule is, in fact, an unnecessary well, and it is

(Continued on Page 101)

INTERNATIONAL NEWS

Mexico Denies Obligation For Immediate Payment

The struggle between American and British oil companies and the Mexican government became more involved when President Cardenas denied Mexico's obligation to make immediate and adequate payment for expropriated holdings. The Mexican government's attitude on indemnity was expressed in a note from Foreign Secretary Hay to Ambassador Daniels, in reply to that of two weeks ago from Secretary of State Hull to the Mexican ambassador to the United States.

Mexico flatly refuses arbitration as suggested by the United States on American-owned farm lands expropriated by Mexico or to admit the principle proclaimed in the United States note of July 21 that "prompt payment of just compensation" is the basis of the universally recognized rules of law and equity in cases of expropriation.

While no mention of the oil properties was made, it was conceded that the same principles would apply. The reply clearly conceded that Mexico is unable to make full payment by asserting that any arrangement on indemnity for American lands must be made in accordance with "economic conditions" in Mexico.

Secretary Hull declared in his note that "the taking of property without compensation is not expropriation. It is confiscation. It is no less confiscation because there may be an expressed intent to pay at some time in the future."

The strong negation of the concepts of expropriation held by the United States expressed in the Mexican note left Washington in a delicate position and threatens the entire "Good Neighbor" policy. So far, at least, most of the other Latin American countries have supported the United States view that the "Good Neighbor" policy must be bilateral and reciprocal. What would be the reaction if the United States insists on Mexico accepting its views can not be forecast, but it may be reasonably expected that the "under dog" would receive the sympathy of Latin America.

The State Department at Washington reserved comment on the Mexican note until the original text had been translated. American newspapers, however, lost no time in contending that the fat was in the fire and that the United States had no alternative but to see its stand through to the end. The New York Times said:

"It is perfectly evident that the two governments are in head-on collision here on a point of basic importance. It is also perfectly clear that our own government can not possibly retreat from the premise of its argument and accept the contradictory premise of the Mexican government without placing in jeopardy the whole vast structure of American investments in all of the countries of Latin America. . . .

"Finally, there is the possibility of disastrous consequences for Mexico herself in a persistance of this disagreement. For while there is no way short of force by which one country can compel another country to meet obligations which the second country is determined to reject, and while there has been and will be no thought of using force in the present case, it is obvious that Mexico can not have her cake and eat it too. If she is determined to ignore what other nations consider to be their rights, she will have to accept the consequences of such action—the avoidance of Mexico by the foreign capital and business enterprise which that country now needs more than ever before to help lift it from the deep economic distress in which it finds itself."

The New York Journal of Commerce said:

"Under these circumstances, there can be little doubt as to what our next step in Mexico should be at this time. Possibly the Mexican government still believes that Washington in its note of July 21 was mere bluffing. Any such doubt should be dispersed immediately by another firm note on our part. Shown that the Hay note is no answer at all to the American stand, the Mexican government should reconsider, for our southern neighbor cannot well afford a break in diplomatic, and possibly economic, relationships. Such a step, far from sounding the death knell of our good neighbor policy, in the long run might actually prove the salvation of this principle, since a meek United States would not be able to keep the respect of the other South American countries without which a genuine 'Good Neighbor' policy is impossible."

Perhaps as evidence that Mexico is not seriously concerned over the attitude of the United States, it followed its note by expropriating another parcel of 1,080 acres of grazing land owned by an American on August 4. The value of agrarian land expropriated from American citizens since its social reform program was started several years ago now totals only about $11,000,000, a paltry sum compared to the estimated value of $400,000,000 placed on the oil properties taken from 17 American and British private companies.

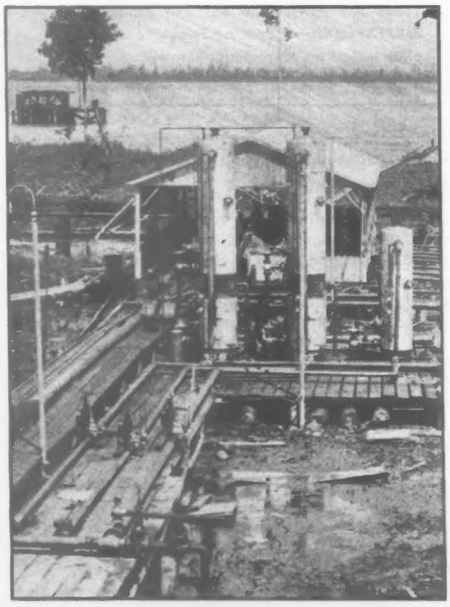
Meanwhile, rumors were circulated and denied that the deal between the Mexican government and W. R. Davis & Co. of New York for disposal of $10,000,000 of expropriated oil had reached a breaking point. Rumors spread from Mexico City that President Cardenas had insisted on a substantial prepayment on the oil which Davis was unwilling to make and that loaded tankers were riding at anchor in the Punaco River. This rumored breakdown in the Davis deal was denied in New York by P. B. Watson at the home offices of W. R. Davis & Co. Mr. Watson said any delay that may have occurred in the releasing of ships has been entirely due to the mechanics of preparing and assembling the necessary documents to present under the letters of credit. He went on to say that cargoes are being sent out "right and left."

Some credence was given the reports that President Cardenas was insisting on substantial prepayment in the Davis deal by weakness of the peso which dipped to a low of 5.6 to the dollar in trading late last week, despite $100,000 thrown behind the money market for the peso by the Mexican government.

Reports on actual field conditions remain sketchy and admittedly are nothing more than "good guesses." Advice from Mexico, however, indicates production is currently at the rate of 50,000 bbls. per day with the basic rate fluctuating to take care of loading schedules. The first direct sale of Mexican expropriated oil to Japan was reported last week, but lacks official confirmation. Outside of the five or six Japanese tankers which received orders upon reaching the Pacific Coast ports to proceed to Gulf of Mexico waters reported two weeks go there has been no further tangible indication that the Mexican government is selling oil to Japan. It was recalled, however, that President Cardenas said two weeks ago that Mexico was being forced to sell its petroleum wherever it could find a buyer. Imports to the United States have been effectively shut off placing a heavier demand on crudes in certain parts of Texas which are particularly suited to production of asphalt products.

Failure of President Cardenas to address or even appear before a mass demonstration of the Mexican Workers Confederation, headed by Vincente Lombardo Toledano, on August 2, was interpreted in some quarters as a snub by the government head. The demonstration was arranged by Toledano and his followers to urge the president to refuse the arbitration suggestion of the United States. It was disappointing to union leaders in Mexico City that no more than 25,000 turned out for the demonstration. Predictions had been made through C.T.M. newspapers that more than 100,000 workers would participate.

Reports were also current that workers in certain oil areas are growing dissatisfied with administration of their affairs by the union leaders. It is said in one quarter that the pay increase recently publicized in the Mexican press was largely confined to close friends and relatives of the union leaders and that the rank and file of workers received no benefit whatever. Furthermore, 8 per cent of the workers' pay deducted under private management and matched dollar for dollar by companies to create a provident fund payable in cash to each individual at the end of the year is currently invested in Mexican road bonds. Workers appreciate that the road bonds have declined to a fraction of their face value and foresee no means of receiving cash, as in the past, at the end of the calendar year.



Pump station in Pedernales, Venezuela

Iran Production Increased During First Five Months

Official production figures for the first five months of 1938 show Iran crude output totaling 33,895,581 bbls., an increase of 4,831,881 bbls. over 29,063,700 bbls. for the same period in 1937. Production dipped to 908,000 tons in May from the April yield of 923,000 tons or from 6,931,730 bbls. to 6,819,080 bbls.

The highest monthly production figure for the current year was established in March when 1,078,393 bbls. of crude were withdrawn from Iran's fields.

The production figures by months so far this year compared to 1937 are listed in tons below:

Month—	1938	1937
January	769,000	750,000
February	835,000	631,000
March	1,078,393	838,000
April	923,000	824,000
May	908,000	827,000
Total	4,513,393	3,870,000

Czechoslovakian Oil Production Greater Than in Past Year

Despite a decline in June, Czechoslovakian crude oil production for the first half of 1938 totaling 71,782 bbls. exceeded output for the same period in 1937 by 14.3 per cent. In June the central European nation produced 11,130 bbls. of crude oil compared to 11,857 bbls. in May, a loss of 7.3 per cent. June production this year was 6.1 per cent below output for the same month in 1937.

ENGINEERING and OPERATING

In This Issue

NEW COSDEN CRACKING UNIT INCLUDES MANY UNUSUAL FEATURES

By D. H. Stormont ..... *Page 44*

The Cosden Oil Corp. recently completed the installation of a 6,500-barrel per day, combination skimming and cracking unit. The equipment was chosen to permit processing most economically the local high-sulfur crude and for this reason, an unusually high percentage of corrosive resisting alloys were used in fabricating equipment parts.

GEL-FORMING, RETARDED CEMENT FOUND SUCCESSFUL IN EAST TEXAS

By George Weber ..... *Page 50*

After two months of recorded bottom-hole pressure-increase in the East Texas field together with a declining withdrawal of oil from the field, some benefits have accrued in the matter of water encroachment. However, increasing quantities of water are being produced and even though various methods are being tried for shutting off water, much work needs to be done over the near future.

CATALYTIC ISOMERIZATION OF NORMAL OCTANE

By Y. K. Yur'ev and P. Y. Pavlov ..... *Page 55*

The article is a translation by Vladimir Haensel of the authors' published work on the subject in the U.S.S.R. In the results the authors show that under conditions of dehydrogenation-catalysis an isomerization of normal octane into hydrocarbons of iso-structure takes place with an average conversion of 15 per cent when platinum is used and considerable less than this quantity when nickel is used.

SAFETY FEATURES IN EQUIPMENT FOUND ON FLOOR OF DRILLING RIG

Page 57

Oil companies generally are becoming more appreciative of the savings in time and money that may be affected through the use of safer drilling equipment. The industry, as a whole, has supported safety programs in a generous manner and some of the safety measures that have been applied on the drilling floor by one company are depicted.

ROTARY DRILLING IN THE APPALACHIAN AREA OF PENNSYLVANIA

By J. F. Robinson ..... *Page 59*

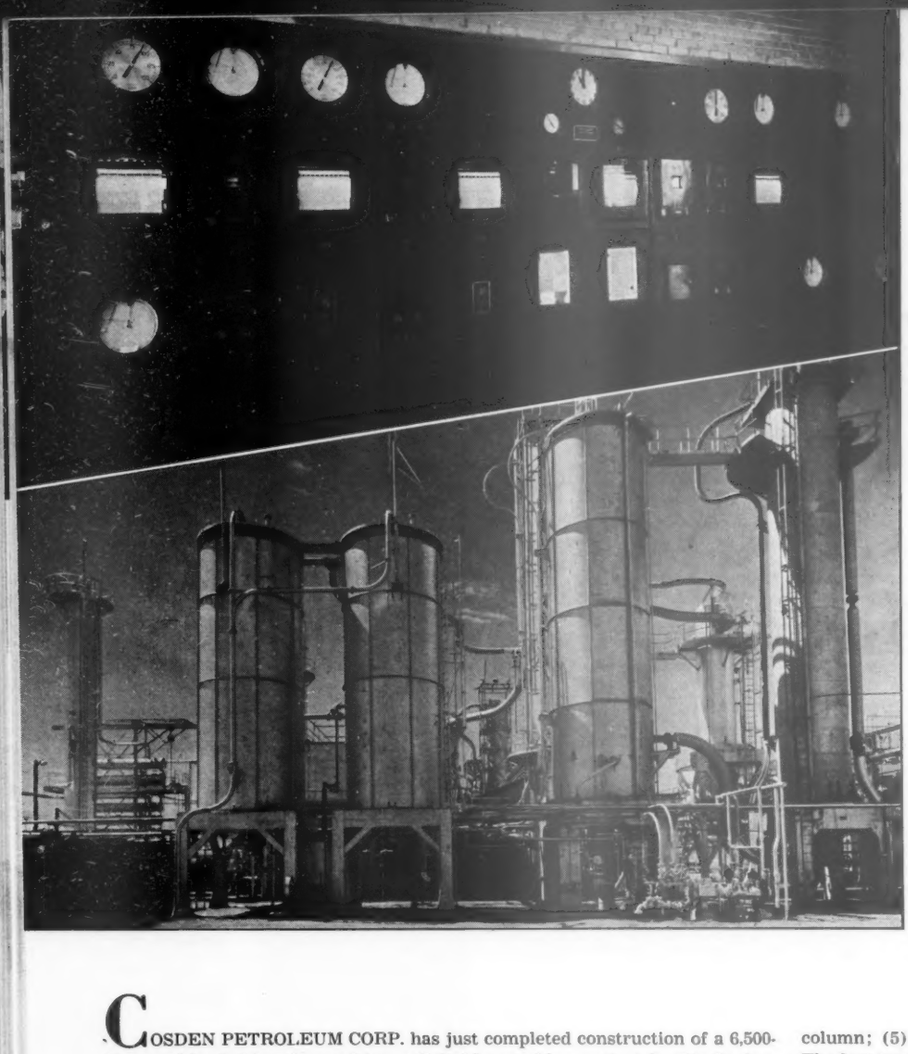
In recent months several gas tests have been started in western Pennsylvania using rotary drilling equipment. The author, president of the Peoples Natural Gas Company, is particularly well acquainted with these operations since his company is using rotary in drilling a deep test in Westmoreland County. The experience gained and the results to date are enumerated.

OPERATING IDEAS ..... *Page 46*

METAL PROGRESS—*By W. L. Nelson* ..... *Page 62*

PROBLEMS FROM READERS—*By L. G. E. Bignell* ..... *Page 65*

QUESTIONS ON TECHNOLOGY—*By C. K. Francis, Ph. D.* ..... *Page 66*



Control board, reaction chambers and part of fractionating equipment

COSDEN PETROLEUM CORP. has just completed construction of a 6,500-bbl. combined skimming and two-coil Dubbs cracking unit at its Big Spring, Tex., refinery. Several features have been incorporated that make for high efficiency and maximum flexibility of operation. In order to better cope with the highly corrosive crudes being processed, much of the piping and equipment is either lined with or fabricated from high chromium-alloy steels. The unit is also unusually well controlled by automatic devices.

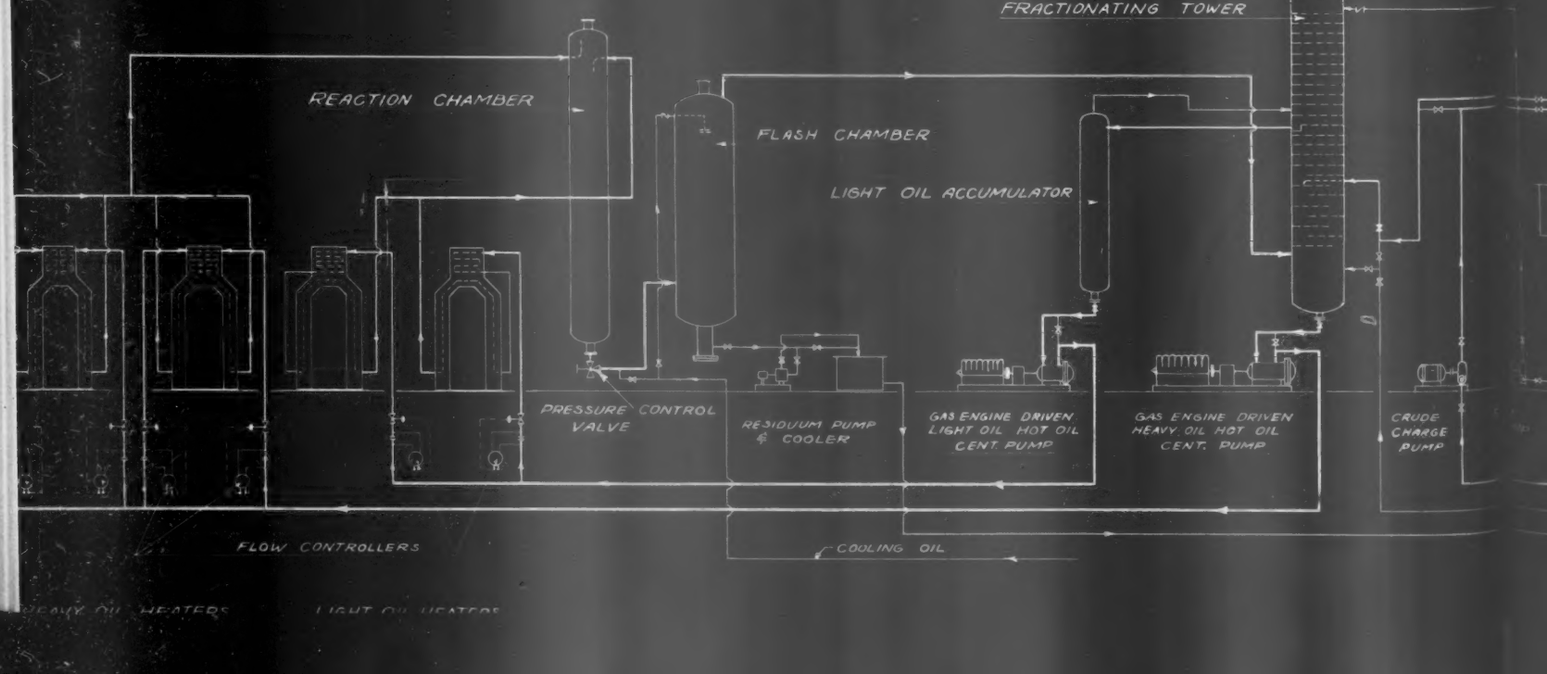
The new unit, in general, confirms the standard lines of design of Universal Oil Products Co.'s combination units, with the addition of several features to meet local conditions. Much reliance has been placed upon automatic controls and through application of latest type equipment, very close control of skimming and cracking operations is attained.

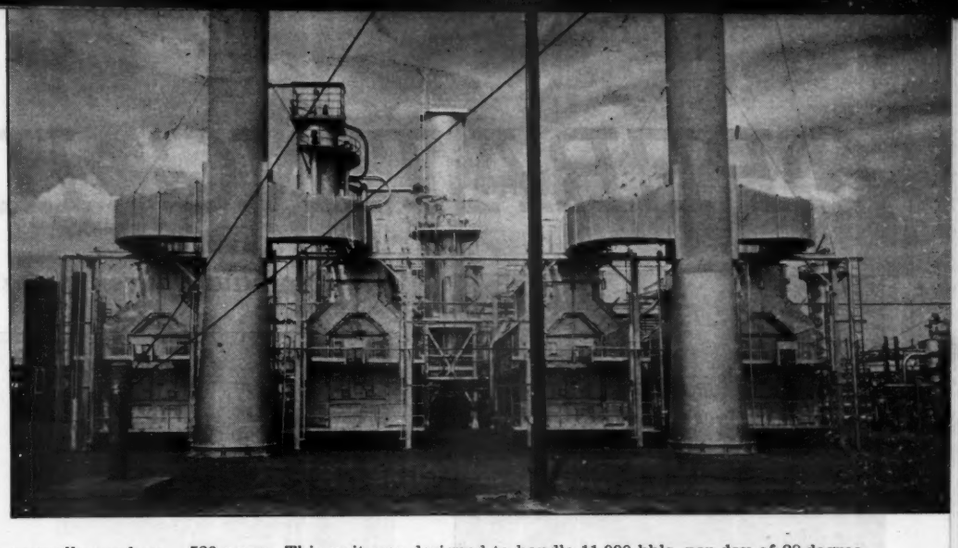
Of outstanding interest are the new-type oil temperature controls on the outlets of the heaters. As any variation in temperature at this point of the operation must be compensated for later, it is highly desirable that the outlet temperature of the heaters be held as constant as possible. By the highly efficient control system used in Cosden's new unit, the four furnaces having six outlet temperatures are all held within a range of two degrees variation. Controls on both the light- and heavy-oil furnaces consist of a newly developed Foxboro potentiometer Stabilog control system sychronizing the heater outlet temperatures by controlling the volume of gas to the burners, which is in turn interlocked with Mason-Neilan flow control valves on the oil inlets to the heaters and a Foxoboro flow meter recorder controller system on the charge to the unit. This is the first instance in the Mid-Continent in which these controls have been installed on a two-coil cracking unit, although several have been placed in single-coil units.

One of the chief advantages, outside of the excellent overall control of the heating cycle, is the ease and accuracy with which the temperature may be regulated. Through use of a three-way valve on the fuel line serving each heater it is possible to predetermine and regulate the amount of heat transferred to the oil in both the heating and soaking sections of the light-oil heater. If the oil is not being raised to the predetermined temperature in the heating section, through automatic controllers the three-way valve shifts to allow more fuel to be fired to that bank; if the temperature is too low then the valve shifts the other way. The outlet temperature of the oil is controlled in a like manner, the valve working to provide more or less fuel as is required to heat the oil to the predetermined temperature.

Also of note is the varied use made of the 600-endpoint product taken off midway up the fractionating column. This light oil is run to an accumulator maintained at a temperature of about 590° F., and is used for the following purposes in addition to its primary use as a charging stock to the light oil heaters: (1) For supplying heat for the operation of the stabilizer; (2) for washing down the sides of the flash chamber to prevent accumulation of coke; (3) as a quench oil for cooling oil and polymers are used); (4) as a reflux for the fractionating the hot oil stream before it enters the flash chamber (both fuel column; (5) and as a lubricant for the light- and heavy-oil charging pumps. The last two mentioned uses are of especial interest.

The novel method by which the top temperature of the fractionating tower is better controlled and the flexibility and capacity of the tower materially increased is as follows: The oil is taken from the base of the accumulator by a centrifugal low-pressure cooling pump. The pump moves part of the oil to the stabilizer (where it acts as a reboiler oil) and the other portion through coolers, the amounts going to each being regulated by valves according to the amount of heat needed to operate the stabilizer. The two streams then join and are run to the fractionator where a controller allows the desired amount to enter the column on the plate just above the light-oil takeoff. The remainder of the light oil is used for washing down the flash tower and for quench. By use of this system of reflux it is possible to maintain a high bottom-tower temperature without interferring with the top-tower temperature, thereby increasing the tower's capacity and flexibility. Check valves and controllers placed in the system make its operation automatic





Front view of the light and heavy-oil heaters. All tubes and headers are made of chrome moly alloy steel

New Cosden Cracking Unit

By D. H. STORMONT

and the systems used to lubricate the light-oil and heavy-oil centrifugal pumps are also of interest. In accomplishing this, the light oil line from the hot-oil pump to the heaters is tapped with a 1-inch line and the oil is run through a cooling coil made up of 72 lengths of 1½-inch tubing. Here the oil is cooled from about 580 to 100° F. The cooled oil is run to an accumulator upon which a back pressure of 200-210 pounds is held. This pressure is sufficient to force the oil through lines into the packing of the centrifugal pump shafts. From the pumps the oil is taken through a back-pressure controller to the fractionator where it enters the system described early in this paragraph. By use of this system the pump shafts are lubricated at a much lower temperature than is normally used on centrifugal hot-oil pumps, in fact the packing of the shafts may be said to have been converted from a hot-oil into a cold-oil packing. Also, any gumming of the packings in the heavy-oil pump, caused by the heavy, dirty oil seeping into the packing, is avoided. This system has been found to be very efficient and to allow the shafts of the pumps to operate at much lower temperatures, thereby providing better lubrication.

The two hot-oil pumps used on the new unit are worthy of note in that this installation is something entirely new to the oil refining industry. The centrifugal pumps are each driven by eight-cylinder vertical gas engines connected through speed increasers. This equipment is proving very satisfactory through its reliabilty and economy of operation.

The heavy-oil hot-oil pumping unit consists of a Byron Jackson 4 by 10, six-stage chrome alloy fitted centrifugal pump operating at 3,600 r.p.m. The pump is indirectly connected through a Farrel-Birmingham herringbone type speed-increaser gear to a Cooper-Bessemer 400-hp., four-cycle gas engine operating at 400 r.p.m. on refinery processed gas. The pump is capable of handling 18,000 bbls. per day of 19-degree A.P.I. recycle oil at a temperature of 750° F.

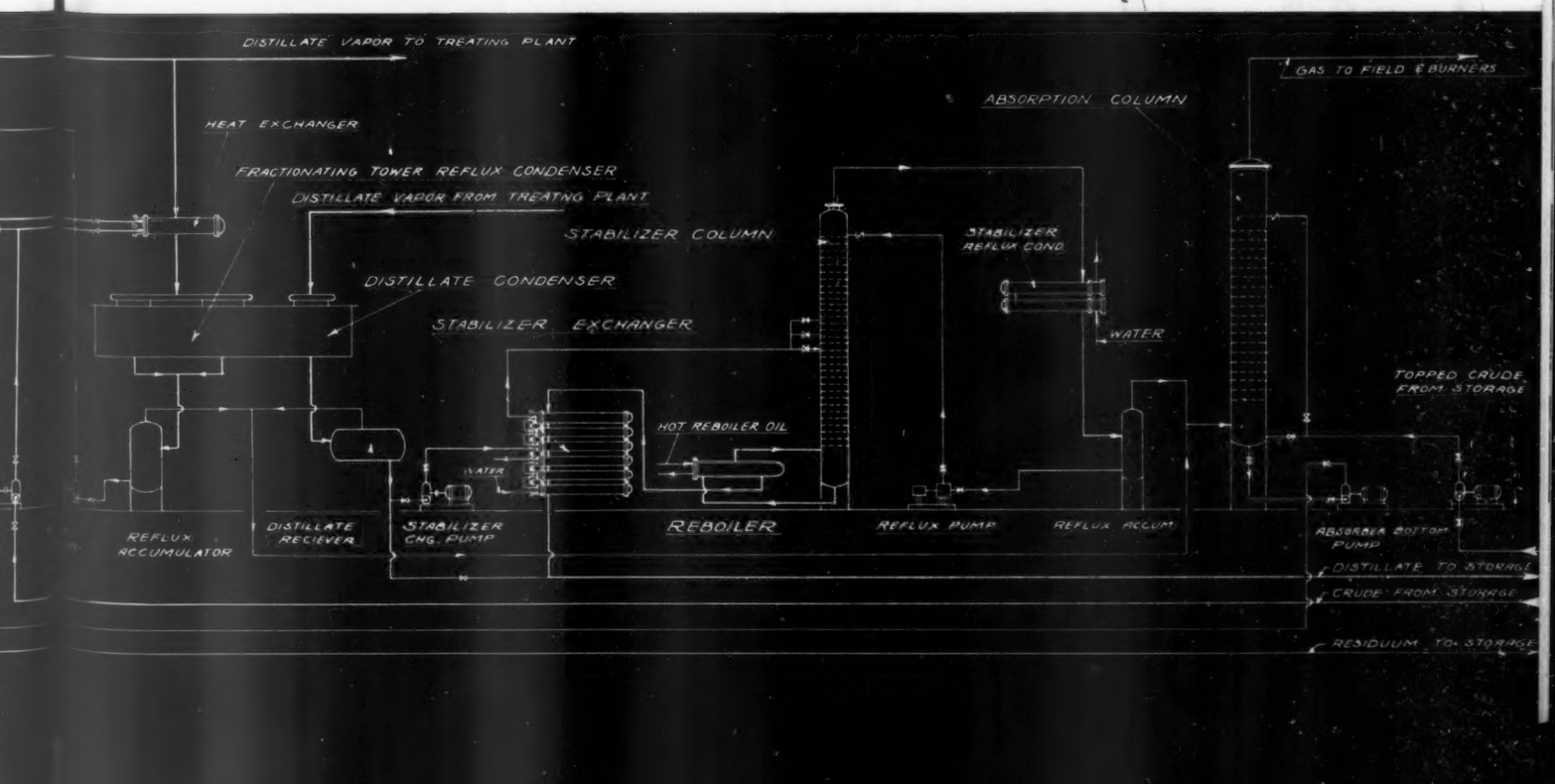
The light-oil unit is identical to the heavy-oil unit except in size. It consists of a 3 by 9, eight-stage alloy fitted centrifugal pump operated at 3,600 r.p.m. and indirectly driven by a speed-increaser gear. The gear in turn is driven by a 250-hp., vertical eight-cylinder, four-cycle gas engine operated at 520 r.p.m. This unit was designed to handle 11,000 bbls. per day of 28-degree A.P.I. gravity oil at a temperature of 750° F.

The units are equipped with separate fully-enclosed water cooling systems, enabling the circulation of soft water through the engines at all times and thereby insuring trouble-free operation from engine scale. The engines are also fitted with such auxiliary equipment as dual ignition, air intake cleaners, oil filters, auxiliary water pumps and oil coolers to insure uninterrupted operation for long periods of time. Gas engines were selected as prime movers in behalf of the greater economy to be effected over either steam or diesel engines under the particular conditions of their installation.

Another new practice followed in the new unit is the use of lining in the fractionator to prevent corrosion. A 2-inch lining of Transite blocks is used, being so fitted as to provide a liquid-tight seal and preventing the corrosive oils from contacting the column shell. The lining is covered with a coating of water glass, and extends from the bottom of the tower to the bottom of tray 10 or throughout the corrosive section of the tower.

Also to reduce corrosion in the unit is the wide use of alloy steels. All nozzles and tray supporting angles are lined with 25 per cent moly, 12 per cent nickel alloys. All piping in the unit having a temperature of over 500° F. is lined with 4-6 per cent chromium, .5 per cent molybdenum alloy.

The unit is designed to charge 6,500 bbls. of fresh and topped crude direct to the fractionating column. The topped crude first *(Continued on Page 48)*

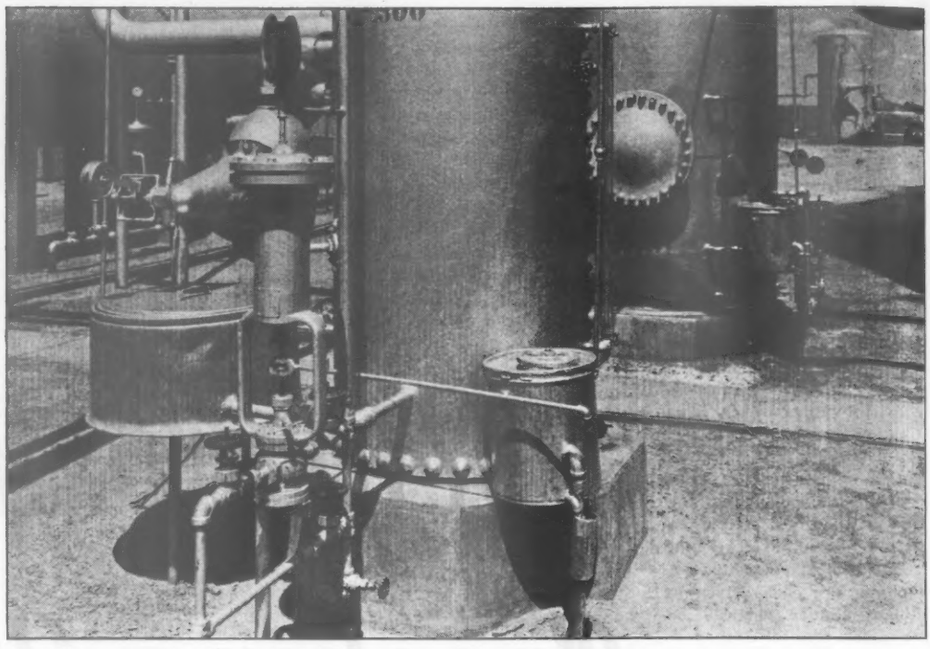


OPERATING IDEAS

Automatic Lubricator for Chain Drive

On a majority of rotary rigs, the chain which drives the rotary table is lubricated by a roughneck who uses a paddle and spreads on some heavy grease. A driller operating oil company-owned tools in West Texas made up a lubricator out of a 4-inch nipple with an oil capacity of 2 quarts. It is fitted with a copper tubing that allows the oil to drip on the chain when the rig is in motion. The oil flow is controlled by a little throttle valve. It is closed when the rig is down.

Eliminate Valves Freezing in a Natural Gasoline Plant



On the distillation equipment of a natural gasoline plant in the Panhandle of Texas, paint cans serve as housing on control valves, that have a tendency to freeze up. A steam coil inside the can keeps the temperature high enough to elminate freezing. On the level control of the still, one section of an oil drum serves as the housing.

Cable Tool Bailer Dump

This unusual device made from reclaimed pipe and pieces of sheet iron forms a trough and allows the drilling crew to dump the bailer without getting fluid on the derrick floor. This is in use by an oil company operating in the St. Louis field of Oklahoma.

Fire Prevention on Pulling Machine

A well servicing contractor operating in the K.M.A. field has adopted a practice of exhausting the pulling machine engine into the slush pit which is filled with water wherever gas is present. This eliminates any chance of igniting escaping gas.

How big a highball?

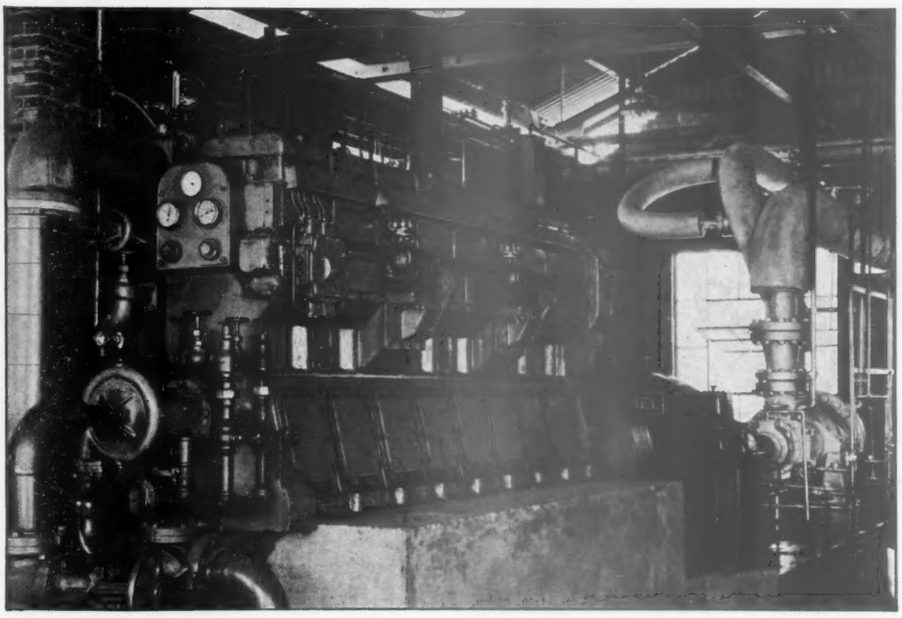
IF whiskey was as potent as U.O.P. inhibitor No. 4, you'd have to split a drop to make a highball—or make it in a bucket

Five drops of No. 4 keeps gumbugs all out of a gallon of gasoline (or more) and the anti-knock value all in

No wonder they call it the Chemical Sergeant

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor



One of two pumping units used to charge the hot oil to the heaters. Each unit consists of an 8-cylinder vertical gas engine driving a centrifugal pump through a speed increaser

passes through the absorber, entering at the top and scrubbing the ascending residue gases as it works its way down, and is then picked up by the absorber bottom pump and charged to the fractionator. The fresh crude is passed through heat exchangers heated by overhead vapors from the fractionator, where it is raised from atmospheric to approximately 210° F. It likewise is then charged to the fractionator.

The straightrun gasoline along with the cracked gasoline is taken overhead from the tower; the intermediate cut of 600-endpoint material is drawn off to the light-oil accumulator where it is picked up by the light-oil hot-oil pump; and the third product, or heavy cut, is removed from the bottom of the column and picked up directly by the heavy-oil hot-oil pump. The light oil is discharged to its two heaters at a pressure of 610 pounds and the heavy oil at a pressure of 620 pounds.

Flow controllers divide the flow of oil equally to each of the two light-oil heaters, the oil entering the heaters at about 580° F., being heated to 772° F. in the radiant section, obtaining a temperature of 950° F. before entering the soaking section, and having a transfer temperature of around 1,000° F. The light oil heaters are of conventional Universal center-wall, updraft type equipped with 3½-inch by 2¾-inch by 26-foot 2 per cent chromium .5 per cent molybdenum tubes. All headers are of 5 per cent chromium molybdenum alloy.

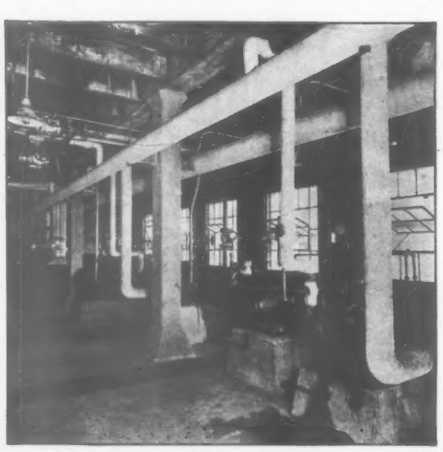
The heavy-oil heaters are also of center-wall updraft type but the flow through them is different from that through the light-oil heaters. The heavy-oil heaters are also equipped with controllers which divide the flow of oil equally to each, but the flow through each heater is split so that one-half of the oil goes through one side of the heater and one-half through the other, to be later combined at the outlet. The oil enters at about 725° F., reaches a temperature of 820° F. in the radiant section and is discharged at 925° F. These heaters each contain 64 3½-inch by 2⅝-inch by 26-foot 5 per cent chromium .5 per cent molybdenum tubes in the radiant section, and 64 3-inch by 2¼-inch by 26-foot Sicromo tubes in the convection section. The smaller size tubes are used in these heaters to provide a high velocity of the oil and permit operation at a maximum outlet temperature without formation of coke in the tubes.

After leaving the light- and heavy-oil heaters, the two streams of cracking stock are brought together upon entering the reaction chamber. The combined feed leaves the reaction chamber through the pressure-control outlet valve where the pressure is reduced from 300 to 94 pounds, before entering the flash chamber. In the flash chamber the heavy residue is discharged out of the bottom draw-off valve to storage. The balance of the product is flashed overhead into the fractionating column below the stripper section. A top temperature of 795° F. and a bottom temperature of 810° F. are maintained in the chamber.

Operation of Fractionator

The fractionator is operated at about 90 pounds pressure, with a tower-top temperature of 395° F. and a bottom temperature of 730° F. A constant level is maintained in the bottom of the fractionating column by an internal liquid-level control, operating on the fresh feed to the column. A constant temperature is maintained on the vapors leaving the column by a potentiometer control instrument.

From the fractionating column the gasoline vapors are condensed in either the main product condenser or reflux condenser, and then passed through their respective receivers. All gasoline entering the distillate receiver leaves same through the stabilizer charge pump which passes it through a set of heat exchangers into the stabilizer column. Top and bottom temperatures of 125° and 337° F. respectively, are maintained in the column and a pressure of about 165 pounds. Tower-top temperatures are held through use of a conventional reflux system and the bottom heat supplied by an external reboiler, using the light recycle oil as previously described.



Pump room

The stabilized gasoline as drawn from the stabilizer reboiler is next passed through exchangers and coolers before entering a lime wash system for the removal of hydrogen sulfide. The hydrogen sulfide free gasoline is then passed through a continuous doctor sweetening unit for final treatment. This doctor sweetening system has also just been completed and was designed to work in conjunction with the new unit for highest efficiency in preventing loss in octane value through treating.

The overhead vapors from the stabilizer are run through the reflux condenser and to an accumulator where the desired amount of reflux is pumped back over the tower. The vapors from the accumulator are run to the bottom of the absorber and after being scrubbed are burned as fuel.

The new unit when completed on June 10 was subjected to strenuous air and hydrostatic tests far beyond its rated operating conditions before being placed on stream, to insure the utmost of safety. The unit met all tests satisfactorily and was placed in actual operation, after preparatory warming up, on June 15 and immediately bettered all expectations as to yield of high-octane gasoline. In addition to this new unit, the No. 1 Dubbs unit, which has been in operation for several years, has been brought up to date by the installation of new centrifugal hot-oil pumps, and has a daily capacity of 5,500 bbls.

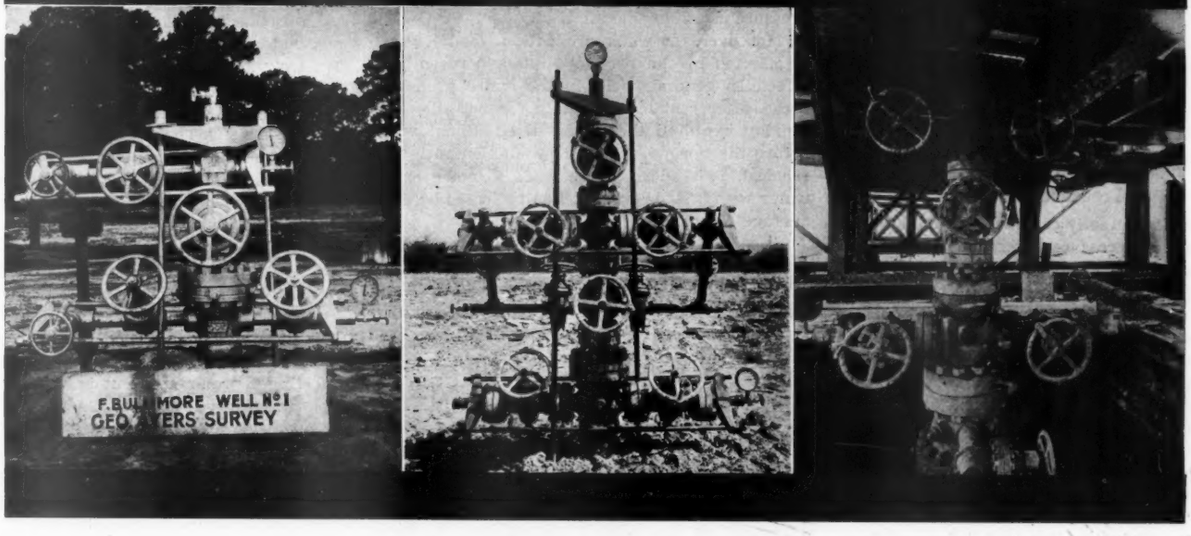
Road Oil Sales Increase Six Per Cent

Increased construction of the lighter types of highway, especially for county and farm-to-market roads, resulted in an increase of 6 per cent in the sales of road oil by petroleum refineries in the United States—from 8,256,694 bbls. in 1936 to 8,733,650 bbls. in 1937—according to statistics compiled by the Bureau of Mines. However, if the sales of road oil are taken in connection with sales of cut-back asphalts, paving flux, and emulsified asphalts, a smaller proportionate increase (3 per cent) was registered in the total sales of liquid and semiliquid asphalts for highway construction—from 16,427,254 bbls. (revised figure) in 1936 to 16,968,641 bbls. in 1937.

Of the road oil sold in the United States in 1937 only 594,812 bbls., valued at $900,951, were made from foreign petroleum imported from Venezuela and Mexico. Of the road oil made from foreign crude, 79 per cent was sold by refineries of the Atlantic seaboard in 1936 and 77 per cent in 1937; the remainder was made in Gulf Coast refineries of Louisiana and Texas.

Petroleum refineries in the United States reported the production of 8,087,231 bbls. of road oil in 1937, compared with 7,397,868 bbls. of road oil in 1936. The refinery output of road oil was augmented in 1937 by 1,089,167 bbls. of other petroleum products, chiefly fuel oil, transferred to road oil stocks, compared with 1,096,583 bbls. similarly transferred in 1936. Stocks of road oil and of transferred oils held at refineries increased from 856,039 bbls. (revised figure) on December 31, 1936, to 983,843 bbls. on December 31, 1937. Consumption of road oil at refineries in their own operations, transfers, losses, and adjustments took 314,944 bbls. during 1937, compared with 121,323 bbls. (revised figure) in 1936.

O-C-T TREES!



The widespread use of OCT Christmas-trees, in both high and low pressure fields, is indicative of their rating among a large percentage of operators. No matter what the completion problem may be, there's an OCT tree to make the job safer and easier. A few of the many types of OCT assembled and tested Christmas-trees now in service in Gulf Coast and Mid-Continent fields, in test pressures ranging up to 10,000 pounds, are reproduced on this page.

See your nearest OCT representative or your supply dealer for full particulars on all OCT products.

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CABLE ADDRESS "OCENTOL"

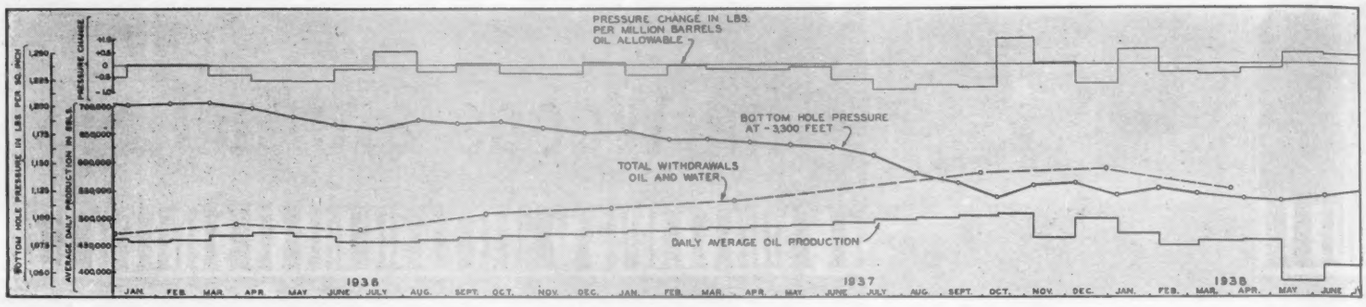
PRESSURE CHANGE IN LBS. PER MILLION BARRELS OIL ALLOWABLE
BOTTOM HOLE PRESSURE AT -3,300 FEET
TOTAL WITHDRAWALS OIL AND WATER
DAILY AVERAGE OIL PRODUCTION
BOTTOM HOLE PRESSURE IN LBS PER SQ. INCH
PRESSURE CHANGE
AVERAGE DAILY PRODUCTION IN BBLS.
1936
1937
1938
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY JUNE

Fig. 1—Trends in water encroachment and bottom-hole pressures in the East Texas field

Gel-Forming Retarded Cement Successful in East Texas

By GEORGE WEBER

A two months' pressure increase, regarded as temporary with the recent abandonment of Saturday shutdowns, is attracting the attention of East Texas engineers. A more important problem, however, and one contributing to the pressure-production relationship, is that of continued rise in salt water production. Work of curtailment and correction is under way at the present time in several different types of projects.

Most important among new developments in curtailment of water withdrawals is an increase in plug-back programs, and an improved technique in high-pressure squeezing, made possible by use of new gel-forming retarded cements. In addition a number of experimental tests are under way, in an effort to find an efficient method of returning Woodbine salt water to the base of the sand.

Pressure Rise

As a result of greatly curtailed production, East Texas reservoir pressure showed its second successive rise with the July 8 survey of the Texas Railroad Commission. During the past two pressure periods, production has been at the lowest since the field was developed; dropping to a daily average of 360,501 bbls. during the period from May 8 to June 8. The following month saw an increase to 391,783 bbls. daily, and this month, with the abandoning of the Saturday shutdown, will show a substantial gain over the preceding one, unless pipe line proration brings unexpected cuts.

The reservoir pressure which had shown a steady decline since January of this year, reacted to the May production cut and increased from 1,116.15 pounds to 1,120.84 pounds, a gain of 4.69 pounds as of June 8. This quick response to pressure decline is characteristic of the pressure-production relationship in East Texas. Based on observations of past performance, pressure reaction during the second period of curtailment was not expected to show an increase of over 2 pounds. The continuance of the rise from 1,120.84 pounds to 1,125.45 pounds, however, nearly equalled the gain of the previous month, in spite of increased withdrawals.

An index of the field's performance for the two months last surveyed shows a pressure change in pounds per million barrels of oil withdrawn, of plus 0.420 and plus 0.392 for May and June respectively. These trends are shown graphically in Figure 1.

The fact that the pressure did not react to the drastic oil production cut during May and June in proportion to former responses is attributable in a large part to the increasing withdrawals of salt water from the Woodbine sand. The volume being lifted at the present time is estimated at well over 100,000 bbls. per day, and can be considered as exerting almost an identical effect on the reservoir pressure as a like amount of oil.

Moreover, the water production was not greatly affected by the two-day shutdown recently in effect. In general, wells in the water producing areas, after remaining shut in for Saturday and Sunday, required the lifting of additional water before the normal water-oil production ratio was reached. This added water tends to make actual water withdrawals greater than indicated by daily average figures.

According to the latest complete water survey made by the railroad commission in April, a total of 91,831 bbls. was being withdrawn daily. Total number of wells making Woodbine water at that time was reported at 3,770, compared with 3,462 as of the first of the year.

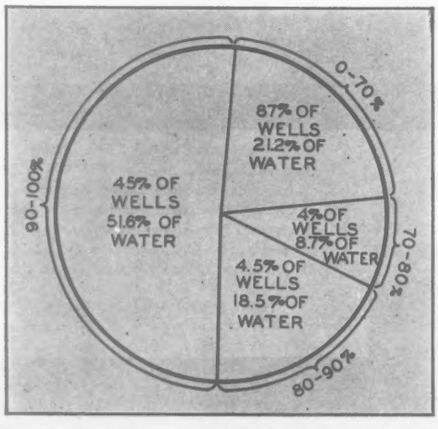

Fig. 2—Break-up of wells making water in East Texas field

In the latest report, over half of the salt water was being produced in the 171 wells which make between 90 and 100 per cent water, the daily production from these wells amounting to nearly 47,000 bbls. as compared with about 3,420 bbls. of oil daily.

More specifically, the 60 wells making the highest amounts of water produced a combined total of over 27,000 bbls. daily, or an average of about 450 bbls. each.

A further breakdown of the production in various water percentage groupings shows that the 172 wells making from 80 to 90 per cent water produced over 17,000 bbls. of water daily, and the 70 to 80 per cent class including 150 wells, made 8,000 bbls. daily. The remaining 3,277 wells making from at trace to 70 per cent accounted for about 19,665 bbls., or about 21.2 per cent of the total withdrawals.

Figure 2 shows the breakdown graphically. It emphasizes the fact that only 4.5 per cent of the wells making salt water are producing over half of the total volume, and that 13 per cent account for nearly 80 per cent of the total fluid withdrawn. This situation may eventually require the plugging of some wells in the higher salt water brackets, effecting a pronounced cut in water withdrawals from the reservoir.

A considerable increase in the number of water wells in the higher brackets is noted in the last report. An actual decrease in the number making from a trace to 10 per cent is due partly to the work in plugging back, and partly to the advance of wells formerly in the lowest group, to water production in higher percentages.

Plug Back Programs

Two developments in recent months have an important bearing on the corrective work of plugging back and squeezing water wells. They include the move toward more rework jobs on wells in the initial stages of water production, and the advancement made in the manufacture of retarded gel-forming cements.

Several of the major oil companies in the field have begun programs which call for reworking wells as soon as they begin to show water. This work is of considerable importance with regard

to future withdrawal figures. Success in shutting off water entirely, or in successfully cutting it back, is greatest in work of this type, due to the greater amounts of oil sand still present, and the ease of plugging before water channeling in the lower section has begun.

In addition to the gains shown in plug-back work over the past few months, the technique in squeeze jobs has improved considerably. This type of reworking is generally applied to wells in the later stages of water production. In such cases, a large part of the exposed sand is water sand, and squeezing all but the small section of oil sand is in many instances a difficult operation.

To add to the difficulty in squeezing high ratio water wells, the porous water sand scavenges considerable volumes of slurry, and the maintaining of high pressures in squeezing becomes a major problem. The past few months have brought a marked improvement in handling this situation.

Formerly, in plugging back East Texas water wells, pressures of 3,000 pounds and over were readily obtained. However, as water influx continued, and the sand in individual wells became channeled by increased water flow, such pressures became impossible in many cases, and engineers were faced with the necessity of improving the squeeze job to build up pressure to the required point.

The outstanding work done to meet this problem has been accomplished by the manufacturers of cements used in the East Texas field. So rapid has this improvement been carried on, that the East Texas field is already the proving ground for numerous new cement mixes, which will doubtlessly find important use in other fields in the future.

New Gel Cements

The use of gel-forming cement is the primary factor in the improvement of squeeze jobs in the field. Early in the year, the Halliburton Oil Well Cementing Co. began the use of a retarded cement, with an admixture of Aquagel. This was found successful in obtaining higher pressures, and the development of gel-forming retarded cements was begun.

Since that time, five cement companies serving the area have placed at the disposal of operators, special cements of that nature. These "East Texas Specials" vary in their make-up; some using admixtures of retarded cement of gel-forming agents, and others obtaining similar results by varying the constituents and the burning process, and by grinding much finer. Judging from the current accomplishment of engineers in working on the special cement problem, the next few months will bring out some newly developed cements which will find use in the oil industry generally, where high pressure squeeze jobs present current problems. These new cements have already been used to a limited extent in other fields, but for the time being, East Texas is the principal proving ground for their development.

Pulling rods on a water well on the west side of the East Texas field

The gel action of the new slurry mixes gives the cement in the hole more body, preventing it from channeling, and a pressure buildup of 2,500 to 3,000 pounds is now the rule rather than the exception as was the case only three or four months ago. Pressures up to 6,000 pounds have been obtained on some jobs, where suitable pressures of half that figure were impossible in many similar instances before.

The special mixes of retarded cement with Aquagel, which originated the present development, were tried experimentally in the field several months ago by Halliburton engineers. It was found that a 1 to 2 per cent admixture increased the cement strength slightly, and that a 2.5 per cent mix retained the same strength as the original retarded product. The gel was tried in proportions ranging from 1 to 6 per cent, and it was found that it tended to separate out, when added in excess of 2.5 per cent.

This type of cement has had most widespread application in squeezing in the field, due to its earlier development, and its success has been proven. For example, out of 22 recent jobs, two cut water production from 90 and 95 per cent, down to 15 per cent water, a third decreased water from 95 to 30 per cent, and a fourth was unsuccessful, possibly due to the absence of sufficient oil sand to make a well. All of the remaining 18 wells squeezed showed a complete water shutoff.

One outstanding example was a water well in the Gladewater area, which had been dead for over a year. A pressure of 3,100 pounds was obtained in squeezing the well, and on recompletion it was given a potential of 62 bbls. per day and is now flowing pipe line oil.

The ability to obtain high pressures in squeezing with the new types of cement, makes it possible to do without staging to a large extent. The staging of cement jobs, in an effort to build up pressure, entails the danger of cementing tubing, and the additional risk in backing off and remaking connections with the retainer. Squeeze jobs have thus been simplified by the improved cements.

Injection Projects

While the principal aim of engineers is to prevent increased water withdrawal so far as possible, the greatly augmented production of Woodbine water has brought about a serious secondary problem of disposal at the surface. Plugging back will not prevent salt water encroachment, but will only retard it.

Another approach to the problem is to apply a corrective measure in returning, to the Woodbine sand, the water which was produced from it along with oil, thus canceling out the effect of water withdrawals on pressure decline. This plan is undergoing experimental application by a few major oil companies who are acting as agents of the railroad commission. Permits for four injection wells to the Lower Woodbine, have been issued by the commission. The work was initiated by the Ohio Oil Co. several months ago. Engineers for that company are now working on a second input well, following mechanical difficulty encountered in the first test.

The Stanolind Oil & Gas Co. and the Sun Oil Co. are also working on the problem, and the Humble Oil & Refining Co. has a permit to experiment with salt water input to the Paluxy sand. The four current injection projects differ in their methods of handling of water at the surface, and in the design of injection well equipment. The work is still in the initial stages of experiment, and definite results are not yet known. The success of these projects will have a very important effect on future conditions in the field, for they represent a sound engineering approach to the problem of minimizing the injurious effect of increasing salt water encroachment on reservoir pressure.

Salt water disposal pits in the Gladewater area are becoming overtaxed from the rapidly growing salt water encroachment in the field

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CATALYTIC ISOMERIZATION OF NORMAL OCTANE

By Y. K. Yur'ev and P. V. Pavlov

Translated from the Russian by Vladimir Haensel*

In a previous work, one of the authors[1] has studied the possibility of applying the method of dehydrogenation catalysis, as evolved by Academy Member N. D. Zelinsky,[2] for an investigation of the chemical composition of petroleum fractions. It was established that under ordinary conditions of dehydrogenation of petroleum fractions the pentamethylene hydrocarbons do not undergo a noticeable reaction of ring rupture[3] with the formation of aliphatic compounds. Thus, the method of dehydrogenation catalysis, which determines the hexahydroaromatic hydrocarbons with a sufficient degree of accuracy, does not cause a change in the relative proportions of five membered naphthenes and paraffins (in the direction of increasing the content of the latter) in the fraction under investigation. While the behavior of pentamethylene hydrocarbons, when the latter are subjected to dehydrogenation catalysis, has been studied using both pure hydrocarbons as well as their mixtures with hydrocarbons of other classes, the behavior of straight chain paraffin hydrocarbons under these conditions has not been investigated.

It was thought to be of interest to determine the structural changes of normal aliphatic hydrocarbons which can possibly take place under the influence of contact with the common dehydrogenation catalysts, that is, Pt on carbon and Ni on Al_2O_3. If there is a catalytic isomerization of the n-alkanes, it should be taken into consideration in judging the nature of the paraffin hydrocarbons of a petroleum fraction in those cases when dehydrogenation catalysis has been used to determine the composition of the fractions. The choice of the catalyst, therefore lies not only in its dehydrogenation activity but also in its ability to isomerize normal paraffins.

The catalytic isomerization of normal alkanes under pressure, in the presence of catalyst MoS_2, $ZnCl_2$ and $AlCl_3$, has been studied by Petrov, Meshcheryakov and Andreev.[4] The isomerization of normal hexane and normal octane in the presence of $AlCl_3$ under atmospheric pressure was investigated by Moldavsky, Kobalskaya and Lifshitz.[5]

Our experiments upon the catalytic isomerization of normal octane were carried out under the conditions of dehydrogenation catalysts, that is, at 300-310° C. and in a stream of hydrogen. The catalysts used were Pt on activated carbon (Pt, 20 per cent), Ni on Al_2O_3 (Ni, 23 per cent), prepared according to the method of Zelinsky and Komarewsky, and Ni on ZnO (Ni, 21 per cent). This last catalyst, as shown by dehydrogenation experiments of hexamethylene and fraction 100-102° C. of Surakhan gasoline possessed a rather strong destructive action, and, therefore, it was interesting to compare it with Ni on Al_2O_3 in so far as their isomerizing activity was concerned.

In order to determine the action of carriers in the isomerization of n-octane experiments were made in the presence of activated carbon and Al_2O_3. As a result of the investigation it was established that the catalytic isomerization of normal octane does take place under these conditions. The most active isomerization catalyst appears to be Pt on carbon, while Ni on Al_2O_3 exhibits a very much smaller activity in that respect. Catalyst Ni on ZnO upon single pass results in a greater isomerization extent than Ni on Al_2O_3 after three passes, this apparently must be ascribed to the action of the carrier ZnO. Activated carbon shows a greater isomerization activity than Al_2O_3. Thus, catalyst Ni on Al_2O_3, as a rather inactive isomerization catalyst, can be preferentially chosen as a catalyst for the dehydrogenation of naphthenic fractions.

*This article is submitted by the Petroleum Division of the American Chemical Society. The division, however, assumes no responsibility for the facts and opinions presented in this paper, nor does it necessarily endorse statements made therein.

Experimental Part

Normal octane was obtained from normal butyl bromide by the Wurtz reaction, according to a method proposed by Lewis, Hendricks and Johe.[7] After treatment with $SbCl_5$ for the removal of iso-compounds, followed by washing with caustic and water, then drying with calcium chloride, the obtained normal octane had the following properties:

Boiling point, 123.5-124.5° C. (747 mm.), $n_D^{20} = 1.3987$, $d_4^{20} = 0.7037$.

The isomerization of normal octane was carried out as follows: The hydrocarbon was subject to a triple pass at 310° C. in a stream of hydrogen, at the rate of 5-6 drops per minute, through a tube (outside diameter 1.2 cm.) containing the catalyst (length of catalyst bed 40 cm.). Twenty-five grams of normal octane were taken for every experiment.

Catalyst Pt on carbon was regenerated at 180-190° C. previous to the experiment; nickel catalysts were regenerated first at 270-280° C. and then at 360° C. Following the regeneration the activity of the catalyst toward dehydrogenation was determined using dimethylcyclohexane. The dimethylcyclohexane catalyzate, obtained over platinized carbon, had an index of refraction of $n_D^{20} = 1.4950$ (96 per cent dehydrogenation); over Ni on Al_2O_3, $n_D^{20} = 1.4670$ (60 per cent dehydrogenation) and over Ni on ZnO $n_D^{20} = 1.4398$ (equivalent to 20 per cent dehydrogenation).

The obtained catalyzates of normal octane were fractionated using a Vigreux column into three cuts: (1) Fraction boiling up to the boiling point of pure n-octane, (2) fraction 123.5-124.5° C., and (3) fraction boiling above 124.5° C.

The test for unsaturated hydrocarbons in the obtained fraction was carried out using permanganate and bromine water. Aromatic hydrocarbons were determined by the sulfuric acid method (shaking up for one-half hour with twice the volume of monohydrate in a mixing cylinder graduated into 0.1 ml., followed by a two-hour settling period). In view of the impossibility to isolate individual iso-compounds from their mixture we have sufficed with a determination of the total amount of iso-compounds in the fractions using for this purpose the Schaarschmidt[8] reaction and a procedure worked out by Moldavsky and Lifschitz.[9]

Experiment 1. Catalyst Pt on carbon.—The successive catalyzates obtained from normal octane had refractive indices of $n_D^{20} = 1.400$; 1.4017; 1.4028. The losses did not exceed the usual amounts. The obtained fractions contained no saturated or aromatic hydrocarbons.

Experiment 2. Catalyst Ni on Al_2O_3.—The successive catalyzates obtained from normal octane had refractive indices of $n_D^{20} = 1.4000$; 1.4012; 1.4012. The losses were the same as in the previous experiments. The obtained fractions contained no unsaturated or aromatic hydrocarbons.

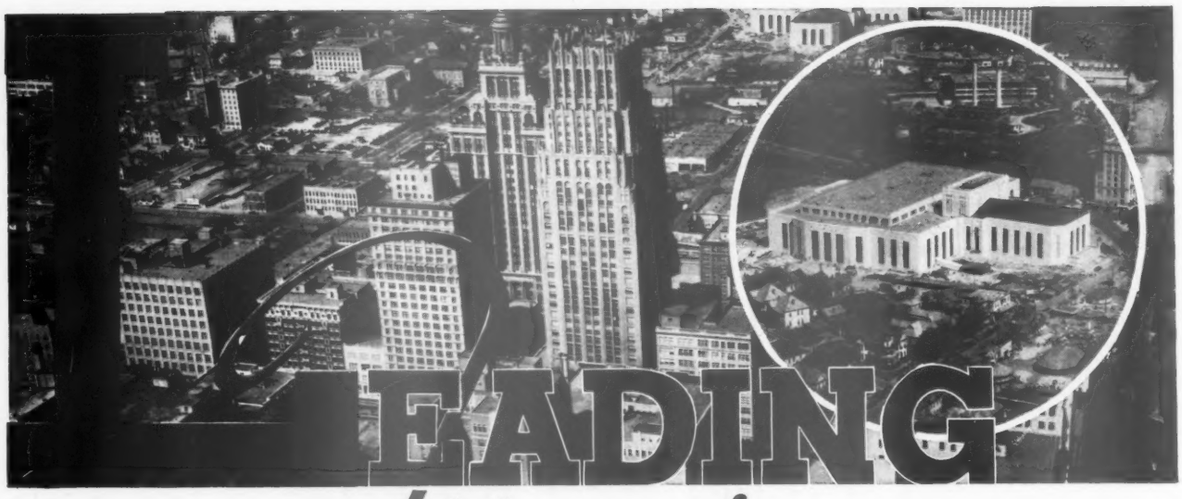
Experiment 3. Catalyst Ni on ZnO.—The catalyzate obtained from normal octane had an index of refraction of $n_D^{20} = 1.3949$. The losses amounted to 26 per cent. The test for unsaturated hydrocarbons in the obtained fractions gave negative results. Aromatic hydrocarbons in fraction 95-123.5° C. amounted to 3 per cent by volume.

Experiment 4. Catalyst Al_2O_3.—The successive catalyzates obtained from normal octane had refractive indices of $n_D^{20} = 1.3995$; 1.3995; 1.3996. The obtained fractions slowly discolored a permanganate solution, that is, they contained a small amount of unsaturated and aromatic hydrocarbons. Fractions 123.5-124.5° C. contained 6 per cent by volume unsaturated and aromatic hydrocarbons.

Experiment 5. Catalyst activated carbon. The

TABLE 1—CONSTANTS OF CATALYZATE FRACTIONS FROM NORMAL OCTANE AND THEIR CONTENT OF HYDROCARBONS OF ISO-STRUCTURE

Catalyst—	Boiling point of fraction in °C.	Weight, per cent of fraction based on obtained catalyzate	n_D^{20}	d_4^{20}	Weight, per cent of iso-compounds in the fraction
Pt on carbon	112.5-123.5	18	1.4015	0.7092	15.6
	123.5-124.5	67	1.4025	0.7098	15.3
	124.5-125.2	11.5	1.4041	0.7113	10
Ni on Al_2O_3	109 -123.5	36	1.3983	0.7034	5.6
	123.5-124.5	60	1.4000	0.7063	5.4
Ni on ZnO	35 - 95	5	1.3801	0.6778	12.3
	95 -123.5	29	1.3974	0.7041	10.4
	123.5-124.5	61	1.4012	0.7052	8.2
Al_2O_3	121 -123.5	13	1.3990	0.7035	11.1
	123.5-124.5	84	1.3995	0.7054	2.6
Activated carbon	123.5-124.5	95.5	1.3993	0.7069	4.1



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successive catalyzates obtained from normal octane had refractive indices of n_D^{20} = 1.3995; 1.3999; 1.3999. There were no unsaturated or aromatic hydrocarbons in the catalyzate.

The results of the determinations of amount of hydrocarbons possessing the iso-structure present in the catalyzate obtained from normal octane, as well as the constants of the fractions, are shown in Table 1. The increase in the constants of the basic fraction 123.5-124.5° C. in comparison with the original normal octane, as well as the appearance of lower boiling fractions indicates that a process of isomerization has taken place.

In the above described work it has been shown that under the conditions of dehydrogenation catalysis an isomerization of normal octane into hydrocarbons of iso-structure has taken place to the extent of 15 per cent (average value) in the presence of catalyst Pt on carbon, and 5.5 per cent in the presence of Ni on Al_2O_3.

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Hope to Avoid Complications in Tideland Ownership

Certainty that the recent attack by the federal government upon California tidelands will be continued when congress again meets, and the very grave danger that the federal government will attempt to establish title to minerals underlying Spanish Grant lands, together with the possibility that mineral titles in the "withdrawal" lands in Kern County will be questioned, have led to the incorporation on a permanent basis of the United Landowners Association, Inc.

Officers and directors of the newly formed United Landowners Association, Inc., are: Ralph Forch, Wilshire Oil Co., president; O. C. Field, O. C. Field Gasoline Corp., vice president; D. T. Staples, Pacific Western Oil Co., secretary; H. J. March, Signal Oil & Gas Co.; L. L. Aubert, Bankline Oil Co.; William C. Whaley, Barnsdall Oil Co.; Ernest E. Pyles, Hancock Oil Co.; Ashley Dewitt, Severns Drilling Co.; L. A. Cranson, Honolulu Oil Corp. W. D. Inskeep is assistant secretary.

According to Mr. Forch, the association "will oppose the efforts of the federal government to establish ownership of any of the three types of titles now apparently to be questioned in spite of the fact that these titles have been held sound for periods of as long as 90 years. The association knows that the battle is not one for the oil industry alone, but also is of the gravest importance to all natural resource industries, as well as all landowners in general. For that reason, the association will include in its membership many more industries than the oil industry, even though at present the oil industry is the most completely represented. The reason for the preponderance of oil industry members at present is simply that the direct federal attack was made upon the oil industry, and the emergency organization formed to combat that attack was made up of those whose immediate jeopardy was greatest.

"Applications for federal oil and gas leases and permits found to date number 161, ranging from the mouth of the Santa Ana River in the Newport Quadrangle on the south to Lompoc Landing about 6 miles north of the mouth of the Santa Inez River, on the north. These applications also include many filed upon inland Spanish Grant lands, including the oil-producing areas of Santa Fe Springs, Dominguez and Torrance. These two types of titles—tideland and Spanish Grants—are included in the present attack, but a recent opinion of Nathan Margold, solicitor general of the Department of the Interior, indicates that patents issued on Kern County lands following the withdrawal orders of 1909, are also in danger. The sole purpose of the United Landowners Association, Inc., is to establish beyond a doubt that all these types of titles vest in those who have for the past number of years been considered the rightful owners, and whose claims have never heretofore been questioned."

It is of interest to note that the original agitation to have the federal government assert title to California tidelands did not come from the federal government itself. The stimulus to the move was given by a group of individuals in California who, for several years, have regularly been filing applications for permits to tidelands, particularly at Huntington Beach, and who have just as regularly been turned down in these applications by the Department of the Interior, the department's stated opinion being that the tidelands were the property of the state, hence the department had no jurisdiction and could not issue permits on them. This group, balked by the Department of the Interior, turned to political activity, petitioning congress, and filing briefs with its members, which were designed to show that because of peculiar conditions surrounding the admission of California into the Union, and conditions concerning the Treaty of Guadalupe Hidalgo, mineral rights to all California public lands were held by the federal government. It was as the upshot of this agitation, which finally interested the Navy Department in its quest for naval reserves, that the Nye resolution was formulated.

The fact that the resolution, even though confined to California, was alarming to other coastal states, was demonstrated by action of Governor Allred of Texas, who wired his state's congressional delegation to oppose the resolution on the basis that it appeared to him to be the first step in what might become a settled program of the federal government, if this first claim were successful, in seizing lands in other states.

SAFETY— on the Floor of the Drilling Rig

There are several safety features in the accompanying photograph that will interest drillers. Two of these were supplied by the manufacturer and the remainder by the men on the job.

In the center foreground is a heavy steel-mesh guard which extends over the shaft from engine to the rotary table. This prevents entangling the workman's clothing or his falling onto a moving part of the machine. The outer edge of the rotary table is also covered by a guard which cuts down the possibilities of a man stepping onto the table while it is in motion. The slip handle in the right foreground is designed to save the workman's fingers and hand in case the elevators should be lowered to the joint where their weight would come on the slip handle. This happens all too often and before the heavy rounded handle was developed the workman's only safety equipment was his speed in withdrawing his hand.

By looking closely the double line on the "breakout tongs" can be seen. One line is the "jerk-line" going to the automatic cathead and the other is a "snub-line." This second line was installed by the workmen in case there should be a failure in the jerk-line which would allow the tongs to rotate with the pipe.

On the extreme right is a shop-made "back-up post" which is not only a safety device but a money-saver for the contractor. By putting a direct pull on the back-up line it prevents bending and weakening the tong-handle and at the same time saves the line. The entire arrangement allows a little "play" and thus prevents a sudden shock which would part the line or break the tongs. Numerous injuries are sustained by men who are hit by flying tong parts or the end of a parted line.

Tong counter-balances are concealed beneath the floor as is shown by the line running through the floor immediately to the left of center and in the rear. Placing the counter-balance beneath the floor instead of up in the derrick eliminates the possibility of its falling on someone or someone bumping into it.

Near the top of the photograph on the right is a joint of 4-inch drill pipe laying on the derrick girts. This prevents the cutting of the cat-line when pulling equipment in from outside of the derrick. It saves the cat-line which may become so badly cut that it might part at some future time under what would normally be considered a safe load.

The arrangement of timbers in the center rear is a "snubbing-post" for catching the drill pipe as it swings in the door. A rope is attached to the upright timber and a workman holds the free end of the rope. He is thus able to control the bottom end of the pipe. It not only saves considerable energy but is much safer than "tacking" the pipe as it comes through the V-door.

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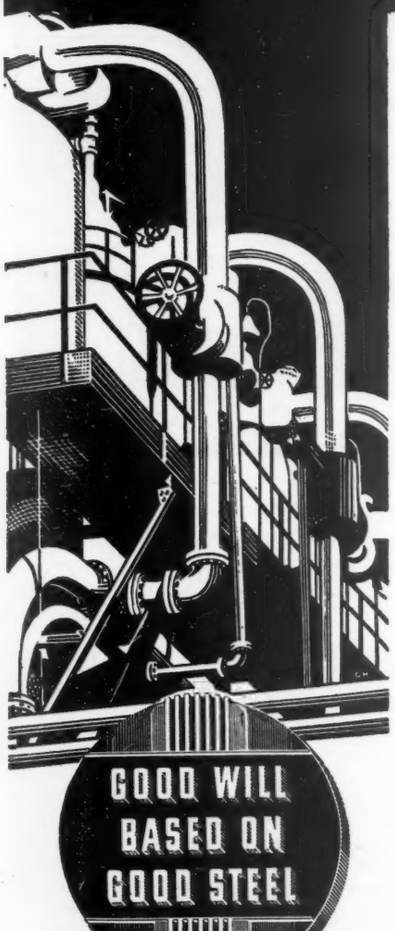

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Rotary Drilling in Appalachian Area

By J. FRENCH ROBINSON
President, Peoples Natural Gas Co.*

The question of rotary drilling in the Appalachian area has been of extreme interest to operators in the East for several years and has been discussed at frequent intervals since the discovery of gas in the deeper horizons such as the Oriskany sand and Onondaga limestone.

The Oriskany sand and Onondaga limestone are encountered at depths from 6,000 feet to 8,000 feet in much of the Appalachian area and in the few cases where cable tools were used to drill wells to this depth the operations frequently proved very hazardous and costly because of the caving nature of the Hamilton shale beds and the large gas pockets which were frequently found, often causing difficult fishing jobs. Casing costs were also large because of the number of strings required to complete a well to the Oriskany sand.

The Peoples Natural Gas Co., wishing to test a structure in Westmoreland County, Pennsylvania, considered the hazards of drilling a well to the depth required to reach the Oriskany (7,600-7,700 feet) and it was decided that the possibilities of a successful completion in the area would be greater if rotary methods were used. It had been demonstrated that rotary bits could drill most of the harder formations encountered in the Paleozoic section of the East by a well which was completed in the northern part of Pennsylvania by rotary methods after cable tools were unable to make any progress.

A contract was given to Loffland Brothers, drilling contractors of Tulsa, and operations were commenced March 11, 1938. This well is now drilling in the Onondaga or Huntersville chert at a depth of 7,644 feet and will probably be completed within the next few weeks.

Equipment Used

Loffland Brothers erected a 136-foot rig with a 26-foot floor and 8-foot substructure, the capacity of the rig being 436 tons. Two 300-hp., six-cylinder, L.R.O. Waukesha engines are used for power and natural gas is used for fuel. At 850 r.p.m. these engines operate as a unit and are capable of producing 600 horsepower. The pistons used in the engines are 8½ inches by 8½ inches. The drawworks used in this operation is a 34- by 36-inch Ideal jack shaft and is capable of hoisting loads up to 500,000 pounds or more. The pump used to circulate the mud is a 7¼- by 15-inch Ideal capable of circulating at 3,500 pounds pressure with a 5½-inch liner. The clutch is an Ideal and is capable of drilling to 12,000 feet or more.

The well was started with 4½-inch drill pipe weighing 17.60 pounds per foot and they are now using 3½-inch flush joint drill pipe weighing 15.50 pounds per foot. One and one-eighth inch Roebling wire lines have been used. The block is a five sheave, weighing about 5 tons.

The fuel consumption on this well has been from 40,000 to 50,000 cubic feet of gas per day and about 100 bbls. of water are required. North of Pittsburgh, the South Penn Oil Co. has been drilling a well with rotary which is steam driven and they are using coal for fuel. This method of operation requires from 15 to 20 tons of coal per day.

Description of Drilling Operations

Actual drilling operations were commenced on the No. 1 Marshall well March 24. The well started with a 17¼-inch hole. At 290 feet the hole was reduced to 8¾ inches. The well started in rocks of Pennsylvanian age about 100 feet above the upper Freeport Coal. The average footage made by the 17¼-inch bits was about 50 feet, the best day's run being 90 feet. Much of this section is made up of hard coarse-grained sandstones. The actual drilling time made with the 17¼-inch bits was about 1 foot in 15 minutes.

The 8¾-inch hole below the first 290 feet was later reamed down to 422 feet and 418 feet of 13⅜-inch casing was cemented from top to bottom by the Halliburton method. This was the only casing used in the well until the Onondaga had been penetrated to a depth of 7,502 feet. Two blowout preventers were installed on top of the 13⅜-inch casing to prevent trouble if gas pockets were encountered.

Very good time was made in the Upper Devonian sands. Approximately 280 feet of Big Injun sand was drilled in about two and one-half days. Some portions of the Big Injun, especially near the top of the sand, required a bit every 10 feet, but better footage was obtained in the lower part of the sand and the entire 280 feet required but 10 bits for an average of 28 feet to the bit. The average actual drilling time required per foot was about seven minutes.

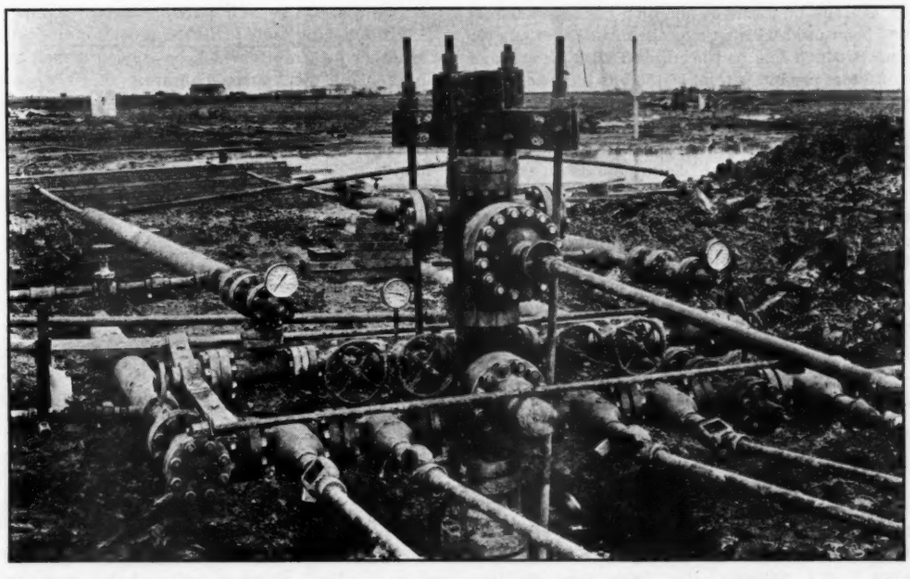
Some gas was encountered in the Murrysville sand and Hundred-Foot sand, as well as several other horizons. It is interesting to note that this gas was apparent in the mud returns despite the relatively low pressure which the pool now has as a result of the many years these formations have been producing in the locality.

The Second Bradford sand is the deepest of the productive Upper Devonian sands in the area of the Marshall well, and as many doubted the ability of the rotary to cut these hard, sandy formations, it is worth while noting that better than average time was made. The 3,400 feet, which includes the Upper Devonian sands, was drilled in 29 days, and this, despite numerous short fishing jobs occasioned by twist offs in the drill pipe. This section could probably be drilled in about half this time in another well if heavier drill pipe was used. It is also probable that the experience gained as to the speed at which the rotary table can be operated most effectively, together with the information gained on the best type of bits to use, would lead to a reduction in the time required.

The drilling of this first 3,400 feet required six 17¼-inch bits and 61 8¾-inch bits. Two of the 17¼-inch bits were used for reaming, therefore, 65 bits were used in 3,400 feet of hole for an average of 52½ feet per bit. The average actual drilling time required per foot was about six minutes.

Slower Drilling

The section from 3,400 feet to 7,443 feet, where the top of the Onondaga was encountered, drilled more slowly than was expected. This section includes the Portage and Hamilton formations. The former has many thin bedded sandstones which made drilling somewhat slower than was anticipated. The Hamilton section proved to be quite sandy in this area and this, no doubt, contributed to the fact that drilling speeds did not increase greatly in this predominantly shaley section. The Tully limestone, encountered at 6,980 feet, drilled readily. There was some increase in drilling time in the Black Marcellus shale. The above described



Operators must often overcome two mud problems. A high-pressure well such as this in the Placedo, Texas, field calls for unusual mud treatment while drilling and it is obvious that the mud under foot offered transportation problems in getting heavy equipment to the well

*Delivered before West Virginia Oil and Gas Association meeting at Charleston, W. Va.

portion of the hole from 3,400 to 7,443 feet required 50 8¾-inch bits, with an average of about 81 feet per bit. The average actual drilling time per foot was about 12 minutes, varying from 1 foot in three minutes to 1 foot in 48 minutes.

Fishing Job

A bad fishing job occurred at 7,213 feet when the drill pipe was frozen in the hole and it required about 10 days to overcome this difficulty. The string was jarred and finally they resorted to circulation over the drill pipe between 7-inch and 4½-inch and the pipe was freed.

The Onondaga was encountered at 7,443 feet and the upper 37 feet, which was free of chert, drilled readily. The Huntersville chert was encountered at 7,480 feet and the well was still drilling in this formation at 7,620 feet at the time of this writing.

The shallow gas which had been encountered in the Upper Devonian had caused some cratering in the hole and a tight spot developed at about 1,600 feet which caused considerable trouble in removing and running the drill pipe. Because of the danger of freezing the pipe and stopping circulation of the mud at this tight spot, it was thought best to case the hole into the Huntersville chert. The well was drilled to 7,502 feet in the 8¾-inch hole and at this point 7,483 feet of 7-inch O.D. 28-pound Spang Chalfant, extreme line casing, was run and cemented with 150 sacks of cement by the Halliburton method.

The Huntersville chert was by far the most difficult formation in the entire Devonian series to drill. Six 8¾-inch bits were used in drilling the first 20 feet of this formation and they were all specially treated rock bits designed for hard drilling. In every case they were completely worn out when pulled. It has required from 25 to 200 minutes to drill 1 foot in this formation, the average being about 1 foot per hour.

After running the 7-inch O.D. pipe, the hole was reduced to 6 inches and in the first 90 feet of 6-inch hole, all of which was in the Huntersville chert, 34 bits were used for an average of 2.6 feet per bit. Eighteen days were required to drill this 90 feet, including two days which were used for fishing for cones which came off in the hole because of extreme abrasive qualities of the chert.

As of July 20, the well had reached a depth of 7,600 feet and six 17¼-inch bits had been used with an average of 70.3 feet per bit; 118 8¾-inch bits had been used with an average of 61.1 feet per bit and 34 6-inch bits had been used with an average of 2.6 feet per bit. A total of 158 bits had been used with an average of 48.1 feet per bit.

The rotary table has been run at about 50 r.p.m. in this section of the hole and with about 2 point of weight equal to about 5,000 pounds on the bit.

At a depth of 7,600 feet, it requires from three and one-half to five hours to pull the drill pipe, change the bits and get the drill pipe back in the hole ready to drill. This is known in the parlance of the rotary driller as "making a trip." In the cherty part of the Onondaga, it has been necessary to make from two to three "trips" per day in order to renew the bits.

The best day's run made was 240 feet and the poorest was 10 inches. An average of 64 feet per day of elapsed time have been made since drilling operations commenced. This includes time lost for fishing.

Mud has not been a serious problem in the drilling of this well as it has not been necessary to use much special additives because the formations have been hard enough to stand up well. It has been found, however, that more representative samples are obtained when the mud is heavy and has a good viscosity.

It was found to be expedient to keep samples at frequent intervals and to have them studied by a geologist as they were obtained. During the period when a large amount of open hole existed, it was found that the samples rarely had more than a few per cent of the material in which the drill was working. It is, therefore, necessary to study these samples closely if the operator is to know in which formation he is drilling.

Several attempts have been made to core the Huntersville or Onondaga and with one exception they have been complete failures. It seems to be impossible to cut much core in this formation because of its hardness and abrasiveness. Two small cores were obtained, one of which was cut by a basket fishing tool which was used to retrieve the cones. These cores proved to be made up of a sandy silt stone with large chert nodules included.

TABLE OF COMPARATIVE DRILLING COSTS OF A NUMBER OF DEEP WELLS IN THE APPALACHIAN AREA

Operator—	County	State	Farm—	Year comp.	Total depth (feet)	Type equip.	Gross costs*	Gross cost per ft.
Peoples Natural Gas Co.,	Washington	Penna.	Geary	1911	7,248	Cable	$100,516.05	$13.87
Peoples Natural Gas Co.,	Westmoreland	Penna.	Seger Bros.	1924	6,989	Cable	143,898.67	20.59
Peoples Natural Gas Co.,	Westmoreland	Penna.	Booth & Flinn	1920	6,863	Cable	76,757.95	11.19
Peoples Natural Gas Co.,	Westmoreland	Penna.	Booth & Flinn	1925	7,756	Cable	139,370.65	17.97
Greensboro Gas Co.	Fayette	Penna.	Thompson	†1938	‡7,815	Cable	50,358.00	6.44
Norwood P. Johnson et al	Washington	Penna.	McBurney	1937	7,050	Cable	149,000.00	21.13
Peoples Natural Gas Co.,	Westmoreland	Penna.	Marshall	†1938	‡7,502	Rotary	94,371.00	12.58
New Penn Devel. Co.	Potter	Penna.	Hill	1938	6,454	Rotary	(§See note below)	

*Including casing. †Not completed. ‡Drilling. §Drilling costs, $7.78; estimated casing, $1.53; total, $9.31.

Cost of Drilling

The costs of drilling the No. 1 Marshall well have been relatively high. Accurate figures are available at this time for only the first 7,500 feet. The direct costs have averaged $7.66 per foot with an estimated indirect cost of $3.16 per foot, making a grand total of $10.82 per foot. This is equal to a cost of $724.62 per day of elapsed time and $805.21 per operating day. The items which loom the largest in the above costs are (1) bits and bit parts equal to $2.35 per foot (17¼-inch bits cost $170 each, 8¾-inch bits cost $96 each and 6-inch bits cost $72 each); (2) payrolls equal to $1.81 per foot and (3) drill stem depreciation equal to $1.37 per foot. The remainder of the cost is made up of such items as lubricating oils, compensation, wire lines, trucking mud costs, etc., all of which items are considerably less than $1 per foot each. Freight and expense costs have been relatively high, averaging 62 cents per foot. The total direct costs at 7,500 feet was $57,461.52 and the indirect costs have been $23,695.71 for a total of $81,157.23. The above costs do not include charges for fuel and water pumping. From the above it seems apparent that the total cost of this well will approach $100,000.

The following table gives a comparison of costs with other deep wells which have been drilled by cable tools in the Appalachian area:

Conclusions

It has been proven beyond all doubt that the rotary can drill any portion of the geological section which is encountered in the East, and with the exception of the cherty portion of the Onondaga, the drilling can be done more rapidly than with cable tools.

The rotary overcomes the greatest handicap to the cable tool method in successfully combating with gas pockets and caving formations.

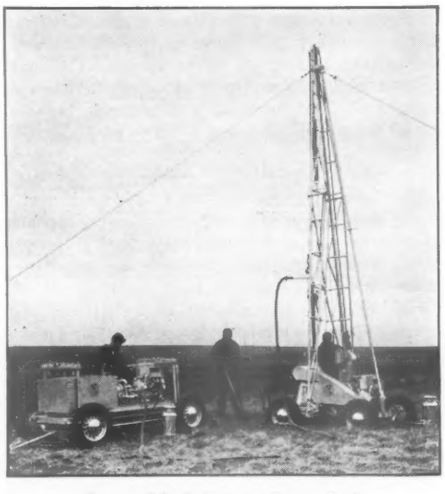
The rotary method is, without doubt, considerably faster than the cable tool method of drilling very deep wells, and an operator can feel much more confident of a successful completion at great depths.

The rotary method is more expensive on a per foot basis but it must be considered that the use of rotary in the East is as yet in the experimental stage and there is no doubt that costs can be considerably reduced. The men in charge of the drilling on the No. 1 Marshall well feel that they can cut the time required for drilling another well from one-quarter to one-third less than on the first well as a result of the experience gained and they believe costs can be cut about one-third. It is also believed that the manufacturers of bits can develop bits better adapted to the Devonian formations as they gain experience with the requirements. It is apparent that harder bits will be needed for the Onondaga or Huntersville chert and these will, no doubt, be forthcoming in the future.

Considering the infant stage of rotary drilling in the East, the record is not a bad one. To date, one well has been successfully drilled deeper from 6,065 feet to 8,482 feet in northern Pennsylvania and another has been drilled to 6,454 feet in record time in Potter County. The No. 1 Marshall well is drilling at a depth of 7,644 feet after successfully penetrating most of the Denvonian section, all of the Mississippian and a part of the Pennsylvanian section. Another well is drilling at 6,832 feet near Pittsburgh and is probably now in the upper part of the Silurian formation. In short, two attempts have been successfully completed and two others are drilling at considerable depths in record time.

It is believed that the rotary method will be essential to eastern operations, if they are to develop the deeper horizons. It may be that a combination rig, using cable tools for the start of the operation and again in the chert, will be the final answer, but the fact remains that only the rotary method will assure an operator of successfully coping with caving and gas pockets, and, when costs are reduced, as it seems certain they will be, the rotary method will be able to successfully compete with cable tools on the deep operations in the Appalachian area.

Portable Drill May Be Loaded on Pack-Horse

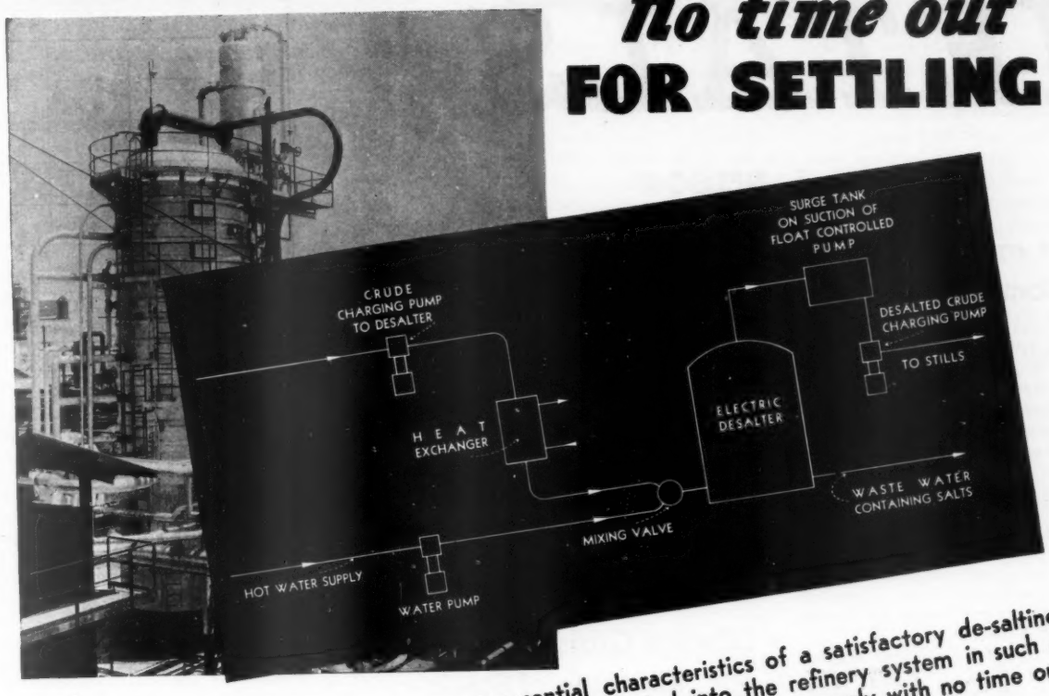


Assembled for making hole

A portable drilling rig for seismograph work is shown in the accompanying picture and it attracts interest because of its unusual portability. No piece of the equipment weighs more than 250 pounds and permits transportation over practically any portion of the earth. The mast breaks into four pieces.

Here the men are shown making a test run to familiarize themselves with the operation and this is being done in anticipation of taking this rig to Java for exploratory work.

Continuous DE-SALTING
No time out FOR SETTLING



One of the most essential characteristics of a satisfactory de-salting process is the ability to be incorporated into the refinery system in such a manner that charging stocks can be de-salted continuously with no time out for settling.

The Petreco Electromatic De-Salting Process is particularly advantageous in this respect. Being a completely closed system, de-salting takes place within the de-salter unit and no separate settling process is involved.

As shown by the flow chart illustrated, the cleaned oil leaves the top of the de-salter and passes into a surge tank, from which it continues directly through the refinery system; while the water containing the extracted salts is continuously withdrawn from the lower portion of the de-salter. Operation is automatic, continuous, and involves minimum time, labor and expense.

If you are having salt troubles, write for Bulletin No. 78 immediately. Preliminary analyses and recommendations involve no obligation whatsoever.

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PETRECO
Electromatic DE-SALTING

Progress in METALS

By W. L. NELSON

Safety Factor and the Fatigue Limit of Common Alloys

Engineers have long been chided because they design a machine or structure with meticulous care and then use steel parts that are five times as strong as required by the design figures. However, such is not truly the situation because the factor of safety of five that is referred to above is based on the short-time tensile strength test which may be only remotely related to most actual service conditions. Informed engineers are aware that steel is permanently deformed at a stress far below the tensile strength, that conditions of vibration or repeated loading, which is called fatigue, cause failure at even lower stresses, that steel has scarcely any strength at high temperatures, and that many factors may combine to cause the steel to fail at very low loads. These conditions are summarized for a 0.2 carbon steel in the following tabulation:

	Stress (lb./sq. in.)	Factor of safety when using 16,000-lb. design strength
Tensile or ultimate strength	64,000	4.0
Elastic limit or yield point	38,000	2.4
Fatigue strength:		
Uniform cross section	30,000	1.9
Notched section	16,000	1.0
With corrosion	14,000	None
Creep strength at 900° F.	17,000	1.1
Creep strength at 1,100° F.	2,000	None

Inasmuch as fatigue or endurance limits for various materials are not as well known as many other properties, Table 1 is presented as a summary of what may be expected from the common alloys and steels under such conditions of service. The fatigue limit is defined as the maximum load in pounds per square inch that a material can sustain for an unlimited number of applications of the stress. The test is usually conducted by rotating a shaft of the material while loaded at the center. In this manner the outermost fibers of the material are repeatedly stressed in tension and then in compression with each revolution of the shaft. At large loads the material will stand only a few reversals of stress, but at some lower load (the fatigue limit) the material will be found to be able to withstand 10,000,000 or more reversals of stress. Many machine parts, such as shafts, axles, automobile fenders and frames, engine blocks, sucker rods, drill pipe, oil-well tools, etc., are exposed to such conditions of stress reversal or vibration.

References

1. Donaldson—Foundry Trade Journal, July 2, 1936.
2. Kommers—The Effect of Overstressing and Understressing in Fatigue, A.S.T.M., 41st annual meeting, Atlantic City, June 1938.
3. S. M. Jones Co.—Fitting Sucker Rods to Pumping Conditions.
4. Wilson—Fatigue Tests of Butt Welds, Welding Journal (Welding Research Supplement), October 1937.

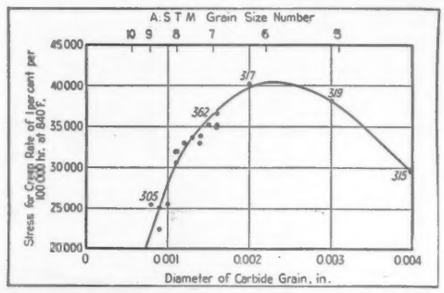
Effect of Grain Size on Creep Strength of Steels

Abstract: Weaver, S. H. "Actual Grain Size Related to Creep Strength of Steels at Elevated Temperatures" presented before the forty-first annual meeting of the A.S.T.M. at Atlantic City, July 1, 1938.

From time to time creep strength data and this method of testing steels has been severely criticized because of the inconsistency of some data and hence several studies have been made to explain the discrepancies. This paper shows clearly what effect grain size, ferritic banding and metallurgical structure within the grains, can have on the creep strength of a nickel-chromium-molybdenum (S.A.E. 4330) steel.

A total of 32 tests on the same type of steel were selected from the files of the General Electric Co. These specimens were studied by microscopic examination and cataloged according to the respective groupings. The effect of the size of carbide grain for the uniform structure steels on the creep strength is indicated in the accompanying figure. Note that a change in creep strength of 21,000 pounds per square inch at these conditions can be caused by grain size and that the optimum grain size is about 0.002 inches.

Results with the ferritic banded steels were not consistent, probably because the creep strength is vitally affected by the relative percentage of weak ferritic bands that are present. However, it was determined for this set of tests that ferritic banding did not cause a maximum variation of more than 4,300 pounds per square inch. Such steels result during rolling operations by leaving bands or strings of relatively weak nickel-iron grains dispersed between grains that contain a normal percentage of carbon.



Creep strength of Ni-Cr-Mo steel S.A.E. 4330 at 840° F.

In a similar manner, the change in metallurgical structure within the grains, such as a pearlitic as compared with a sorbitic structure, indicated for these tests that the creep strength is not altered more than 4,500 pounds per square inch.

Although most petroleum engineers can do little about the type of steel that is received from manufacturers, it is gratifying to know that the problem is being vigorously attacked by steel manufacturers and that creep strength may soon become a thoroughly reliable property.

Drawworks Designed For Deep Drilling

The Big Giant machine developed by the International Derrick & Equipment Co. of Beaumont, Tex., is capable of drilling to 15,000 feet. A number of these units are successfully operating under the most arduous conditions, two of them having drilled over 50,000 feet of hole without replacing a single part.

The function of a drawworks is to raise and lower the drill pipe, necessarily involving severe stresses upon the equipment, and especially so with the increasing depths to which wells are being drilled in recent years. Hence the selection of adequate material for the vital parts is an important factor in providing long and trouble-free service and avoiding breakdowns and replacements in the field.

All cast-steel parts in this equipment, including bearing boxes, etc., are of a nickel-chromium steel of a composition somewhat similar to S.A.E. 3140, specified to the following range of analysis:

	Per cent
Carbon	0.30/0.38
Manganese	0.67/0.80
Silicon	0.28/0.43
Nickel	1.25/1.75
Chromium	0.52/0.61

The mechanical properties, normalized and tempered, average as follows:

Ultimate tensile strength, p.s.i.	110,000
Yield point, p.s.i.	75,000
Elongation in 2 in., per cent	16.0
Reduction of area, per cent	30.0
Brinell hardness	255

In addition to these uses of cast nickel steel, forged nickel-chromium steels are employed for shafting, and a high carbon nickel-molybdenum steel has been successfully used for brake bands, the high elastic limit enabling the bands to retain their shape and behave like a spring in clearing the lining from the rim when the brake is released.

TABLE 1—FATIGUE LIST OF COMMON ALLOYS

Material—	Per cent carbon	Fatigue limit (lb./sq. in.)	Ratio of fatigue to tensile strength	References
1a. Cast iron	3.57	22,000	0.66	2
1b. Cast iron (notched)	3.57	15,700	0.47	2
2. Cast iron, 0.5 Cr	3.24	.....	0.40	1
3. Cast iron, 0.86 Cr.	3.17	....	0.50	1
4. Cast iron, 0.33 Mo	3.28	.....	0.64	1
5. Cast iron, Ni-Cr-Mo	3.19	.....	0.68	1
6a. Wrought iron	0.05	30,400	0.61	3
6b. Wrought iron (in H_2S)	0.05	16,400	0.33	3
7a. Wrought iron, 4% Ni	0.08	45,100	0.69	3
7b. Wrought iron, 4% Ni (in H_2S)	0.08	21,900	0.34	3
8. Steel plate with mill scale	0.15	30,300	0.49	4
9. Steel plate, riveted joint	0.15	27,100	0.43	4
10. Steel, welded joint	0.15	21,800	0.40	4
11. Steel, welded joint (weld planed flush with plate)	0.15	27,900	0.51	4
12a. Steel	0.27	34,000	0.43	2
12b. Steel (notched)	0.27	21,600	0.26	2
13a. Steel	0.43	51,200	0.41	2
13b. Steel (notched)	0.48	24,600	0.20	2
14a. Steel	0.62	48,800	0.36	2
14b. Steel (notched)	0.62	30,400	0.23	2
15a. Steel	0.45	51,600	0.54	3
15b. Steel (in H_2S)	0.45	10,900	0.11	3
16a. Steel, 1.3 Mn	0.35	52,600	0.53	3
16b. Steel, 1.3 Mn (in H_2S)	0.35	16,100	0.16	3
17a. Steel, 1.8 Mn	0.35	56,400	0.48	3
17b. Steel, 1.8 Mn (in H_2S)	0.35	12,100	0.10	3
18a. Steel, S.A.E. 4620	0.20	52,500	0.60	3
18b. Steel, S.A.E. 4620 (in H_2S)	0.20	22,500	0.26	3

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Introducing Exhaust Gases Into Sands Is Doubtful Procedure

We are considering repressuring operations and we are informed that exhaust gases from our engines and compressors could be injected into the oil sands along with the air with beneficial results.—D. S. G.

The method you outline has been tried, but apparently presented difficulties, for so far as information at hand goes it is no longer practiced.

There is one reaction that might occur if exhaust gas were introduced into the lines serving the wells and that is the formation of bicarbonate of lime from the mixing of carbon dioxide in the exhaust gas with water and this mixture dissolving lime. This lime might be redeposited as calcium carbonate or "gyp" and cause trouble in the formations and in the lead lines.

There is no large volume of gas used in the compression plant and if properly used in the cylinders of the units it has served its purpose and it is much simpler and safer to exhaust it.

Fatigue in Metals Due to Repeated Stresses

The term "fatigue" is used a good deal in discussion of rod failures. Will you please explain the precise meaning of these terms? And can you explain what causes this so-called fatigue in metals?—D. R. D.

The behavior of metals under stresses and strains has been studied in much detail in recent years and Dr. Albert Sauveur, Gordon McKay professor of metallurgy and metallography in Harvard University, wrote an interesting little book entitled "Metallurgical Dialogue" in which he carries on an imaginary conversation between a master and pupil. The questions and answers cover many phases of metallurgy and among other details the following dialogue on "fatigue" is recorded.

"P. You have referred to fatigue, to ageing and to creeping. How can these terms be applied to substances belonging to the mineral kingdom? I should think that living things only can age and creep and that animals only can experience the feeling described as fatigue. They must be conscious of its existence. Steel is not alive.

"M. I am not so sure. It seems to behave at times as if it were very much alive.

"P. Are you joking?

"M. I shall take the liberty of reading to you from a paper I presented to the American Iron and Steel Institute in 1913: 'Mineral substances are not the hopelessly inert bodies they are described to be. Is not steel, for instance, pulsating with life? Its tissues respond with extraordinary sensitiveness to changes of temperature and pressure. The cells of which it is composed expand and contract, are flattened, elongated or inflated by the heat treatments applied to it. At certain critical temperatures it exhibits extraordinary activity, causing spontaneous upheavals of such magnitude as to completely alter its physical characteristics. Metals, as Osmond so justly remarked many years ago, should be treated like living organisms and we should study their anatomy, biology and pathology.

"P. Metallurgists have imagination!

"M. They need it, as does anyone engaged in research work.

"P. Could you explain to me what is meant by the fatigue of metals?

"M. When a piece of metal breaks after many applications of a load which remains much below the stress it should be able to withstand, it is said to have failed through fatigue. Let me illustrate it. Assume an automobile axle made of a steel which should be able to resist indefinitely a stress of 100,000 pounds per square inch. After having been in service for a number of months or possibly of years it fails, although at no time did the stress exceed 60,000 pounds per square inch. The axle is said to have failed through fatigue. The tresses to which it was subjected were alternately tensile and compressive. They are called alternate stresses and these were repeated hundreds of thousands and possibly millions of times.

. Why should a substance ever fail when subjecte to stress less than two-thirds of the stress it is capable of resisting?

"M. It used to be ascribed to crystallization, which was believed to occur under these service conditions. This belief has now been shown to be altogether erroneous. I cannot take up with you a discussion of the possible causes of fatigue failure. It will suffice to say that the phenomenon has been very thoroughly investigated and that we are at least able to assign a fatigue limit to steel. It generally is found at about one-half of the tensile strength. In other words, if stresses in service never exceed one-half of the tensile strength, there is little danger the steel will ever fail through repeated applications of alternate loads. The greater the stress, above that limit, the sooner will fracture occur. With a stress approaching the tensile stress, the life of the piece would be very short."

Utilizing the Gas-Engine Exhaust For Heat to Warm Crude Oil

I wonder if there is not some fairly simple way of utilizing the exhaust from gas engines to provide heat for warming crude oil. Can you tell me whether such a device is in use and what it consists of?—T. S. E.

Many operators have made use of the heat in the exhaust gases from their engines by diverting the exhaust into heat exchangers. There are home-made devices consisting of large diameter pipes welded over smaller diameter pipe. The annular space between the inside of the large pipe and the outside of the small pipe serves as a means of conducting the exhaust gas from engine to atmosphere.

As hot gas travels toward the atmosphere-exhaust end of the exchanger the heat contained in it is transferred, at least in part, to the fluid or gas in the small pipe. The problem of heat transfer is one for experienced engineers and designers to solve if best results are to be gained. However, home-made devices are better than exhausting the engine gases direct to the atmosphere if there is any use to be made of the heat remaining in such exhaust gas.

In Kent's Engineering Handbook, Page 1249, under "Gas Engines," it is stated: "The amount of heat lost in the exhaust gases and cooling water is from 65 to 70 per cent of the total heat supplied to the engine in the gaseous fuel." It is suggested this heat be utilized for heating water in a boiler and the book gives specifications for a boiler suitable for this purpose. The temperature of the gas entering the boiler is said to be about 842° F. and the temperature of the gas leaving it about 528° F.

The size of the engine, its speed, the kind of fuel used and a number of other factors should be considered in designing heat exchangers and it is really a problem for manufacturers of this kind of apparatus and it is suggested that you turn it over to them.

Gas Withdrawal Makes Marked Change in Oil Left in Sand

When gas is taken from wells in an oil field, either through carelessness or design, there would seem to be changes in the oil left in the sand in other respects than simply its reduced capacity to flow. I would appreciate such information as you can give me regarding the change that takes place in the character of the oil as a result of withdrawal of the gas.—S. M. N.

The withdrawal of gas from an oil pool reduces the energy in the dissolved and in the free gas, causing the oil to shrink in volume, creating voids and minute bubbles within the oil body. This condition increases the resistance to flow. Increased resistance to flow also develops through increased viscosity and surface tension of the residual oil. Hence the unnecessary withdrawal of gas from an oil pool should be avoided, as such withdrawal decreases the ultimate recovery of oil and thereby violates the principles of conservation.

Ben E. Lindsly, senior petroleum engineer of the U. S. Bureau of Mines, says on this subject:

"The amount of shrinkage that an oil undergoes when gas is liberated depends upon the quantity of gas liberated and also upon its composition. A given volume of the heavier gases, propane and butane for example, will occupy more space in the oil than an equal volume of methane. The reason for this probably is that the molecules of the heavier gases are larger than those of the lighter gases.

"When gases are not in solution, and particularly when they are at low pressures, the distance between the gas molecules is so much greater than the dimensions of the molecules themselves that the mere size of the molecules has little effect upon the space occupied by the gas.

"The fact that the heavier gases occupy more space than the lighter gases in the oil, and consequently cause greater shrinkage when liberated from solution, is brought out conclusively when curves are constructed which show the volumetric changes an oil sample undergoes when gas is liberated by reducing the pressure on the oil sample.

"A well head sample of Kettleman Hills light gravity crude oil showed a total shrinkage of approximately 37 per cent. Half of this shrinkage took place in reducing the pressure from 1,672 to 273 pounds per square inch, absolute, and the other half (18½ per cent) took place in reducing the pressure from 273 pounds per square inch, absolute, to atmospheric. It required the liberation of 814 cubic feet per barrel to accomplish the first 18½ per cent reduction in volume, whereas the remainder of the shrinkage was accomplished by the liberation of 418 cubic feet per barrel."

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Reconditioning Lubricating Oil As Recovered From Drains

What is the standard or best method of refining used oil, especially that recovered from crankcases and sumps? —M. S. B.

There is no one method suitable for the reconditioning of used lubricating oil that has been in general service, because, the first important factor is the quality of the oil before it was used and the second is the conditions under which the oil has been used. Many of the oils in motor and industrial service are not pure mineral oils but are compounded, so the nature of the added material must be considered when endeavoring to make the oil over again. Mineral oil does not decompose under use, whereas the vegetable and animal oils and soaps frequently pass through a series of chemical reactions. Conditions of use are of special importance, because the very best lubricating oil may become seriously contaminated with minerals, water, organic materials, salts, acids, and many other substances.

The condition of a used oil with respect to its recovery possibilities may be compared to a newly discovered crude oil. The refining possibilities of a crude oil are related to its composition and the type of refining equipment available. Oils containing very large quantities of sulfur cannot be refined, because of the expensive corrosive action of the equipment, without pretreatment before it can be processed in the regular way. Oils containing water, sand or salt are also classified as unrefinable. The substances mentioned often appear in a used oil, so any scheme of purification must include steps for their removal.

A used oil, especially the oil from the crankcase of an automobile, is liable to be more troublesome to refine, because of its composition, than a crude oil. Many bodies often quite complex contribute to the liquid and solids of the crankcase which are not amenable to treatment with ordinary refining chemicals or something more than the usual refining processes is necessary.

These conditions indicate that any method intended to purify a used oil from general service must include treatments which are similar to the ordinary oil refining operations. Frequently a used lubricating oil requires extraordinary processing to restore it to a quality that will make it a satisfactory and safe lubricant.

Cetane Is Preferred For Indicating Ignition Quality of Diesel Oils

Which is the proper term, cetane or cetene number when used to indicate the quality of fuel oil? What is the significance of a stated number and how does it vary?—E. R.

The original scheme for indicating the ignition quality of a fuel oil for diesel engine service was in terms of cetene, but recent investigations have indicated that cetane is more satisfactory.

The test for cetane number is based on the fact that cetane readily ignites in a normal oil engine while mesitylene will not ignite at all. The difference in delay is measured at two pressures, 15 and 30 atmospheres, and the result expressed in numbers, which are the percentages of cetane present in a blend with mesitylene matching the oil under test. The test is made in a single cylinder variable compression engine under fixed conditions, with enough trial runs being made with different blends to obtain a match.

The fuel oils now marketed vary from about 30 to a maximum of approximately 60 cetane number. A properly designed engine should give a smooth operation with a 50-cetane number fuel oil. The lower the cetane number the higher the compression ratio that may be satisfactorily used.

Cetane is a saturated hydrocarbon having the chemical name hexadecane and formula C_{16} H_{34}. Cetene is an unsaturated olefin with two less hydrogen atoms, or C_{16} H_{32}. Either may be used, the test conditions remaining the same and the results expressed in terms of the substance used.

Properties of Isooctane

What are the special constants for octane, the substance used as the standard for knock rating?—T. G.

Isooctane, which is the reference standard used when determining the octane rating of motor fuels, is described in chemical terms by the name 2-2-4 trimethyl pentane.

PROPERTIES OF ISOOCTANE

Formula: $CH_3C(CH_3)_2CH_2CHCH_3CH_3$	
Molecular weight	114.4
Boiling point, °F.	211
Freezing point, °F.	—162
Specific gravity	0.6914
A.P.I. gravity	73.2
Refractive index	1.3921
Viscosity, centipoise at 65° F.	0.543
Latent heat of vaporization B.t.u./lb.	130
Heat of combustion B.t.u./lb.	19,880
Vapor pressure, Reid, lbs./sq. in. at 100° F.	2.2

Isooctane is used for blending with heptane to prepare the test samples that are compared with a motor fuel under specified conditions in the standard knock testing engine. The octane value of the isooctane is 100 and that of heptane 0. When a gasoline matches a blend containing 70 per cent isooctane and 30 per cent heptane, the fuel is graded as "70 octane number."

CHEMICALS FOR THE PETROLEUM INDUSTRY

Trisodium Phosphate

(Sodium Phosphate Tribasic)

Use—Treating petroleum oils for removing gums and suspended carbon; water treatment.

Form—Colorless crystals and crystalline powder.

Formula—$Na_3PO_4 12H_2O$.

Molecular weight—380.

Specific gravity—1.644.

Melting point—171° F.

Solubility—Water.

LIMITATIONS

(Technical grade)

Iron	none
Heavy metals	none
Sulfates, max. per cent	0.1

Source of Cresylic Acid and Use In Making Lubricating Oil

You will do us a real service by informing us regarding the uses made of cresylic acid in the peroleum industry, quantities used etc. Is it possible to extract cresylic acid from crude oils?—J. J. D.

Cresylic acid is a phenolic substance derived from certain wood tars and coal tar. The literature available does not reveal any instance where it has been obtained from petroleum.

The important application in the petroleum industry is the solvent extraction and dewaxing process for the manufacture of lubricating oil under the M. H. Tuttle patents.

The essential features of the process include a combination of cresylic acid with propane. The propane is the paraffinic solvent and the cresylic acid, which may contain from 20 to 40 per cent phenol, serves as the naphthenic solvent.

Propane is a deasphalting agent, so, when required, the two purposes may be combined. The oil is easily soluble in propane, so this material causes the raffinate to have a low viscosity, which assists separation. The contacting temperature is low, 60° F. to 90° F.

Propane tends to remove oil from the extract but the high solvent value of the cresylic acid counteracts this action. The low boiling point of propane permits rapid and sharp separation with no emulsification that often is encountered when handling the stocks at low temperatures.

Mixtures of phenol and cresylic acid in varying quantities in the solvent facilitate the extractions within a selected temperature range. The extraction takes place in a number of stages. The references indicate that when the propane-cresylic acid ratio remains constant while increasing the solvent-oil ratios, raffinates of higher viscosity index and lower carbon residues are obtained. Larger propane volumes cause lowering of the viscosity index, but increased quantities of cresylic acid improves both viscosity index and carbon residue.

The quantity of propane as related to the oil under treatment is about 400 per cent and the cresylic acid-phenol mixture about the same. Larger quantities have been reported.

References: M. H. Tuttle, U. S. Patents 2,070,383; 2,077,287; 2,070,385. The Oil and Gas Journal, October 12, 1933, page 11; October 4. 1934, page 12.

Oil From Patoka Pool, Illinois

We would much appreciate it if you will furnish an analysis of the oil from the Patoka pool, Illinois.—A. B. M.

ANALYSIS OF OIL FROM PATOKA POOL, ILLINOIS

Gravity, A.P.I.	38.6
Sulfur, total per cent	0.16
Visc. S.U. at 100° F.	42
Color	greenish black
Distillation—	°F.
Initial B.P.	81
Per cent off	
6.2	167
47.8	527
Yield, products—	Per cent
Gasoline, gravity 62.3, octane No. 50	32.7
Kerosene, gravity 43.0	9.0
Gas oil, gravity 36.4	14.0
Lube. dist.	16.4
Residue	24.9

FIELD OPERATIONS

Summarizing the Week's Developments

KANSAS—Barber County's first Arbuckle lime production was found in the Lake City pool. Two new producing areas were found in section 13-24-14w and section 16-21-11w, Stafford County. The Frog Hollow pool, Cowley County, was extended one-half mile eastward and one-fourth mile northward, and the Ritz-Canton field, McPherson County, was extended one-fourth mile westward. The Ainsworth pool, Barton County, and Burrton field, Harvey County, were extended. Wildcat pool openers were completed in section 15-19-9w, Rice County, and section 31-14-14w, Russell County. Two outposts were completed as extensioners to the Coralena pool, Russell County.

OKLAHOMA—A Wilcox sand pool was opened west of Little River, Seminole County. A Pottawatomie County wildcat was showing as a probable pool opener or extensioner to the St. Louis field. A wildcat near Britton, Oklahoma County, set casing, was preparing to test and looked like a pool opener. Work was starting at a new wildcat north of Britton. Extension of the Wilzetta pool, Lincoln County, one-half mile southward was indicated at a well in section 2-12-15.

NEW MEXICO—Operations in southeastern New Mexico increased the past week, there being 13 first reports for Lea County against eight completions, and two starts in Eddy County with no completions. Two producers were completed in the Vacuum district, Lea County.

TEXAS—The opening of commercial production on the Hester salt dome in St. James Parish was confirmed and another dome was discovered in the Caillou Bay area, in Terrebonne Parish. A shallow sand was opened in the Cedar Point field in Galveston Bay. West Gueydan field, Vermilion Parish, Louisiana, is classified as a distillate field with a well capable of producing 400 bbls. of 47 gravity. Two important outpost tests were located in Andrews County, one in the Means pool and one in the Fuhrman pool. In Southwest Texas a test 2 miles northeast of La Gloria, on the same trend as South Alice, gave promise of opening a pool.

EAST CENTRAL TEXAS—An important test in the Jefferson field of Marion County recovered oil in the Dees sand, suggesting possibility of another productive field in the Rodessa district.

LOUISIANA—Drilling in the Cross Lake field in the outskirts of Shreveport is being held up awaiting the ruling of the Conservation Board which will hold a hearing on spacing at Baton Rouge August 12.

ARKANSAS—An outpost test, located in the Village field of Columbia County, is being closely watched.

CALIFORNIA—Wildcats in Fresno County and one in the Cat Canyon district in Santa Barbara County indicated possible commercial production. There were only three new completions in Wilmington but drilling is expected to increase following the supreme court decision giving the city of Long Beach ownership to the tidelands.

ILLINOIS—There were 52 new tests reported, 25 completed oil wells and one dry hole. Most of the new work was in the Centralia and the Loudon areas. New wildcats were reported in five counties.

Completions in All Fields

(Week Ending August 6, 1938)

	Oil	Gas	Dry	Total	1938 total comp. to date	1937 total comp. to date
N. Y., Pa. and W. Va.	64	6	4	74	2,334	2,657
Ohio	8	10	7	25	564	695
Indiana	0	0	0	0	45	49
Kentucky	12	1	3	16	511	306
Illinois	25	0	3	28	768	59
Michigan	7	0	6	13	486	494
Kansas	17	0	6	23	990	1,516
Oklahoma	14	1	14	29	1,044	1,724
Texas:						
North Central Texas	39	2	21	62	1,888	1,716
West Texas	28	0	4	32	1,188	1,626
Texas Panhandle	9	2	0	11	363	432
East Texas	27	0	1	28	1,252	1,353
East Central Texas	0	0	4	4	215	415
East Texas Border	3	0	1	4	97	236
Gulf Coast Texas	15	1	4	20	775	895
Southwest Texas	15	2	7	24	1,206	1,988
Total Texas	136	7	42	185	6,984	8,661
North Louisiana	11	3	5	19	387	373
Gulf Coast Louisiana	5	0	4	9	277	279
Total Louisiana	16	3	9	28	664	652
Arkansas	5	0	1	6	144	81
Montana	1	0	0	1	54	121
Wyoming	1	1	0	2	100	61
Colorado	0	0	0	0	6	8
New Mexico	9	0	1	10	327	453
Utah	0	0	0	0	1	1
California	14	0	5	19	797	915
Total United States	329	29	101	459	15,820	18,279
Total previous week	377	35	124	536		
Difference	48	6	23	77		

Outstanding Fields--Highlights

(Week Ending August 6, 1938)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	68	112	13	9,570	650	15,700
Hastings	2	9	1	571	567	19,439
Saxet	2	10	1	25	610	33,310
Benavides	2	9	2	99	220	12,017
East Texas	24	87	27	1,166	25,469	440,100
Ector County	16	79	10	11,658	1,187	45,800
Winkler County	6	10	2	3,006	1,678	40,649
OKLAHOMA						
St. Louis	5	27	1	165	664	17,875
Oklahoma City	3	9	0	0	1,088	106,775
KANSAS						
Barton County	2	16	3	668	338	8,325
Stafford County	3	14	1	576	155	5,420
Rice County	4	15	4	3,366	1,187	23,285
Russell County	3	16	4	821	1,111	23,400
NEW MEXICO						
Lea County	18	82	7	1,452	1,800	99,010
LA-ARK-TEX						
Rodessa, La-Ark-Tex	2	13	3	1,325	1,018	37,285
Cotton Valley (deep)	1	13	2	825	82	11,265
Lisbon, La.	4	12	3	4,630	251	9,555
Schuler, Ark.	2	15	3	1,555	78	21,160
MICHIGAN						
Buckeye	2	8	1	60	429	20,833
ILLINOIS						
Central Illinois	27	230	25	2,350	743	40,201
CALIFORNIA						
Wilmington	3	23	3	1,140	531	92,750
KENTUCKY						
Birk City	2	23	5	1,190	33	2,003

Illinois and Kentucky

By STAFF CORRESPONDENT

Lift Proration at Centralia; Fayette Activity Increasing

CENTRALIA, Ill., Aug. 8.—Operations in Central Illinois registered another gain the past week, with 52 new tests reported against 25 completed oil wells and one dry hole. The bulk of the new work was in the Centralia and Lake Centralia, or Texaco, areas of Marion and Clinton counties and the Loudon pool of Fayette County. New wildcats were reported in Marion, Fayette, Franklin, Washington and Wayne counties.

Partial lifting of proration in the Centralia pool was put into effect today by Owensboro Pipe Line Corp., following installation of a loading rack on Illinois Central rail lines. Frank Wilson, manager for the company, announced that beginning today the Owensboro company would begin lifting proration in all parts of the Centralia pool proper excepting in section 12, where well owners agreed to continue on the 55-bbl. per day basis and continue to receive $1.25 per barrel for the crude. In sections where proration is to be lifted the price will be $1.10 a barrel until marketing facilities increase. Mr. Wilson's statement was as follows:

"Effective at 7 p.m., August 8, Owensboro Corp. will begin to lift its proration on production in the congested section of the Centralia area. The oil will be moved by pipe line and tankcars.

"Effective at 7 a.m., August 8, Owensboro Corp. will post a price of $1.10 per barrel within the congested section, this price to remain in effect until the Illinois pipe line facilities north are increased and tankcar shipments can be discontinued. At such time the posted price will be increased to $1.15 per barrel and this price will continue in effect until it is possible to restore proration of Owensboro's purchases to its current requirements plus other available markets at $1.25 per barrel.

"In the Centralia area north of an approximate east-west line through the center of section 12, outside the congested district where there is no danger of its connections from drainage, Owensboro will continue its proration and will continue to post a price of $1.25 per barrel."

The new loading rack is capable of handling from 7,000 to 8,000 bbls. per day. It is a 15-car rack.

Lake Centralia Area

The Lake Centralia area, also variously referred to as the Texaco pool and the Tate pool, looms large on the growing Illinois oil frontier. This Marion County pool, east of Centralia and south of Salem, was opened by the Texas Co. about two months ago, and the company since has completed six producers, with others drilling and near completion. Pipe line connections to the new pool are being laid, and completion of the line activity in the pool is expected to increase appreciably. A 4-inch line is being laid from the pool to Sandoval, 9 miles to the northwest.

Another producer for the area was assured at Texas Co. No. 2 Williams, SW cor. section 32-2n-2e. It flowed 75 bbls. of oil while drilling plug at 1,672 feet. Other tests in the area being drilled by the company were as follows: No. 1 Reed, NW NE NW section 5-1n-2e, drilling plug at 1,661 feet; No. 2 Tate, NE NW NW section 5-1n-2e, drilling below 1,662 feet; No. 1 Richardson, NE NE SE section 6-1n-2e, drilling below 30 feet; No. 1 Williams, CW half E half SE SW section 31-2n-2e, drilling plug, 1,650 feet, total depth; No. 4 Williams, SE SW SW section 31-2n-2e, drilling below 1,185 feet.

Mammoth Refining Co. No. 1 Bachman, section 9-1n-2e, 2 miles east of the Lake Centralia discovery, was estimated good for flowing production of 100 bbls. of oil daily, and was shut in for market facilities. It was bottomed at 1,856 feet. It checked about 164 feet lower geologically than the Tate discovery well at Lake Centralia.

One-half mile south of the pool, Wanner and others No. 1 Raccoon School, SE NE section 6-1n-2e, flowed 500 bbls. of oil naturally by heads in 13 hours from 1,725 feet, total depth, in Benoist sand.

In the Centralia district, but in Jefferson County,

ILLINOIS FIELDS

Completed oil wells, 25.
New operations, 52.
Production, new pools, 40,201 bbls.; old pools, 14,455 bbls.
Rigs and drilling wells, 257.
Total operations, 319.
Highlight of the week: Proration partly lifted in Centralia area, but price cut from $1.25 to $1.10 a barrel in affected area. Lake Centralia area extended 2 miles eastward.

J. A. Wolf & Co. have spudded at a test in NW NE SW section 1-1s-1e, Walnut Hill Addition, for a McCloskey sand test.

In Fayette County

The Loudon area in Fayette County rates with the Centralia sector as one of the busier sectors in Illinois, with many new wells being started and several completed or nearly completed the past week.

Hausman & Brown No. 1 Hopper, NE NE section 12-7n-2e, cored saturated Stein sand at 1,505-20 feet. Casing was set and cable tools were being installed for completion. It will be the first producer in Sefton Township, if completed as such, and will extend the producing area one-half mile westward.

Carter Oil Co. No. 1 Alsop, SW SW section 12-8n-3e, was a completion, as was the same company's No. 1 Fortner, SE SE section 10-8n-3e, with initial daily production of 80 bbls. Other new producers in the area belonging to the Carter company were: No. 1 Holly, NE section 11-8n-3e; No. 5 Logsdon, NE NW section 15-8n-3e; No. 4 Smith-Dove, SE NE section 15-8n-3e, with initial yield of 180 bbls.; No. 1 Watson, SE section 33-8n-3e, and No. 3 Wood, SW SW section 15-8n-3e.

Production in the area is from both Stein and Benoist sands.

Richland-Clay Counties

Several producers were completed or at completion stage in the Clay-Wayne-Richland county district. Of

(Continued on Page 115)

Production Extended Half-Mile to the Northwest at Birk City

OWENSBORO, Ky., Aug. 8.—The well drilled by Jesse Ashby on the Sapp lease, started with cable tools, completed to the McClosky sand and cored in with a rotary, was drilled in with cable tools and reported a good well. W. E. Hupp and others No. 3 Boswell, in Henderson County, passed through 200 feet in the McClosky limestone without any saturation. Coring was still in progress on the Calhoun lease across Green River in Daviess County.

Carter Oil Co. had its No. 1 Hagan down 910 feet and will probably core in a few days. Its No. 4 O. L. Boswell tract, total depth 1,925 feet, cored 7 feet of saturation and cemented casing. It is attempting to make its No. 2 Dempewolf a gas producer. It was drilled into water at 2,005 feet, 120 feet below the McClosky.

The Cunningham well of W. E. Hupp and others will extend the field half a mile northwest in Henderson County. No. 2 Lindsey Taylor, being drilled by Snowden & McSweeney and Hupp and others on the Daviess County side of the Green River, has been drilled to the top of the McClosky formation and will be completed the first of the week.

The test of W. A. Post on the Calhoun lease in Daviess County, was down 1,940 feet with some saturation. Miller and Shiarella's test on the Rash farm between Birk City and Bluff City in Henderson County, stopped temporarily by a breakdown.

Major Oil Co. and others No. 1 Sanders Community lease was at 1,886 feet with a good show of oil in the core and moved in a spudder to drill in. Drilling has been resumed on the Dr. T. B. Sanders lease at 300 feet. The company is due in on the H. Nelson lease offsetting the Onis Greer well in Daviess County. It was reported at 1,400 feet. Surface pipe has been set on the Hagan lease and drilling resumed.

Fitzpatrick and Hayes were ready to start coring on their Hagan well, 1,500 feet northwest of the James well at Birk City. This is the first well to be drilled to the McClosky formation on the Hagan farm, which has been divided into several leases.

Major Oil Co. has started a test on the Mulligan farm, a mile west of Stanley. The well is being drilled under contract by H. B. Cameron.

Magnolia Oil Co.'s well at Spottsville was down 650 feet. It is being drilled with cable tools by E. M. Shields of Mount Pleasant, Mich.

Salt water was encountered in the James C. McHatton lease by Kentucky Natural Co. and Sun Oil Co., and further drilling was stopped. The well was drilled to more than 1,900 feet. It adjoins the Pitt and the K. A. Jones leases.

The Beulah Gilmore well, being drilled by Thompson Drilling Co. and Kentucky Natural Gas Co., which was abandoned several weeks ago as a dry hole, has been turned into a good producer. After being acidized it was estimated at 200 bbls. a day.

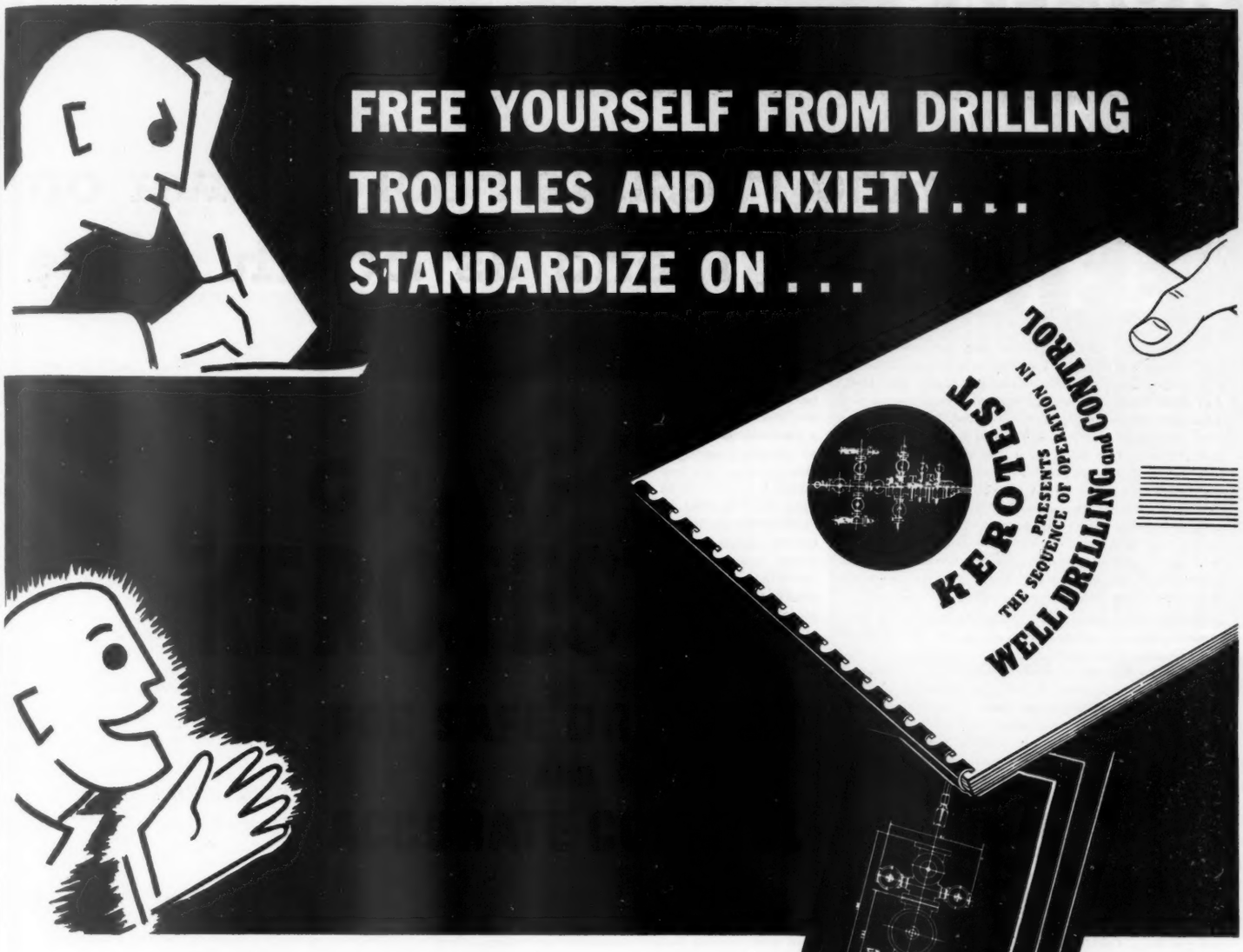
Completions and new work follow:

Daviess County, Birk City district: Major Oil Co. and others No. 1 Mrs. Helen Harrington, estimated 200 bbls. per day; Globe Oil Co. and others No. 1 A. R. James Estate, swabbed 90 bbls. in eight hours after a 3,000-gallon acid treatment; A.C.R. Oil Co. No. 1 Newton, rigging up. W. W. Bailey and Jess Ashby No. 1 Mrs. Sapp, estimated 300 bbls.

Utica district: Schaffer and others No. 4 Boyd Bristow was a dry hole; Jett sand at 1,075-90 feet, total depth 1,418 feet. Ellis & Daugherty No. 1 Howard & O'Flynn, rigging up. W. Chenault and H. C. Farmer No. 2 Martin Weaver, rigging up.

Red Hill district: Pennsylvania-Indiana Oil Co. No. 18 First National Bank tract, drilling at 500 feet.

(Continued on Page 99)



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Southwest Texas District

By
F. L. SINGLETON

Find Possible Pool Opener on Same Trend as South Alice

HOUSTON, Tex., Aug. 8.—Shell Petroleum Corp. No. 1 C. H. Von Blucher, 2 miles northeast of La Gloria and located on the same trend as the South Alice field, Jim Wells County, loomed as a possible pool opener as a 10-minute drill-stem test at 6,055-68 feet tested a strong blow of gas and recovered 150 feet of oil and gas-cut mud and 10 feet of free oil. Coring was started at 6,055 feet and the sand section, having an oil and gas odor, was cored from 6,056-68 feet. After the drill-stem test was made, the hole was cored to 6,077 feet, recovering sand with an oil show. This well is in the southeast Premont area in the Lucinda Vest Survey. The sand section is believed to be the Frio or Vicksburg formation, which produces at three other fields, recently developed along this trend in Jim Wells County.

Along the same trend in Jim Wells County and located about 11 miles southwest of the Ben Bolt in the LaAnima Sola grant, Magnolia Petroleum Co. No. 1 Mateo Valdez was completed for an initial production of 23,000,000 feet of wet gas per day, flowing through open 2-inch tubing under a tubing pressure of 3,525 pounds and casing pressure 3,650 pounds. The hole is bottomed at 6,419 feet, and the completion was made after 7-inch casing was landed at 6,408 feet. The Vicksburg was topped at 5,630 feet and the Jackson at 6,213 feet. The completion of this well and the showing of Shell Petroleum Corp. No. 1 Von Blucher, dowdip from the Magnolia well, is expected to intensify an already active wildcatting campaign.

While the above wildcats were making credible showings, two outpost tests in the active South Alice field, Jim Wells County, proved disappointing. North of production about 2½ miles, Mills Bennett Production Co. No. 1 Perkins was abandoned in a sidetracked hole at 5,342 feet after the well tested 1,100 feet of salt water on a 10-minute drill stem test at 5,335-42 feet. Sand with an oil odor was logged at 5,337-39 feet and from 5,339-42 feet. Two miles south, Block 97, L. G. Collins Subdivision, H. H. Howell No. 1 Mosser was drilling below 6,270 feet and loomed as a dry hole. At a total depth of 6,080 feet, electrical coring test showed possible sand at 5,150-75 feet, 5,327-38 feet and at 5,582-97 feet. However, sidewall cores of these sands showed nothing of importance.

In the field proper, one producer was added by H. H. Howell No. 10 Lindsay and Reed which flowed 163 bbls. per day through an eighth-inch choke from perforated casing at 5,270-5,305 feet.

Woodsboro Area

In the Woodsboro area, Refugio County, preparations were being made by I. J. Allen to recomplete No. 2 Rooke as a distillate producer. A drill stem test in a lower sand at 5,431-33 feet showed salt water, oil and gas. The perforations have been squeezed off and the hole has been plugged back, preparatory to completing at 5,395-5,400 feet where two weeks ago it flowed 30 bbls. of distillate and a large amount of gas. The well is located in section 46 of the Bonnie View Subdivision, Aldrite Survey, about 7,600 feet northwest of the operator's No. 1 Rooke, a dry hole.

Two miles northeast of the Taft field, San Patricio County, Humble Oil & Refining Co. No. 1 Henry, Block 8, section 27 of the Taft Farm Lands, was being watched with interest as shows of oil and gas were reported. Sand with a show of oil was cored at 4,520-23 feet, shaly sand with a show of oil at 4,523-31 feet. On a 10-minute drill stem test at 4,515-31 feet the well tested 750 pounds of working pressure and 40 feet of gas-cut oily mud. A 20-minute test at 4,523-31 feet tested 1,900 feet of salt water and drilling continues below 4,716 feet.

Western Duval

Along the Benavides trend, through western Duval County, two deep tests had reached interesting depths. Frank J. Gravis No. 1 Megerle, about 4½ miles northeast of Benavides, is coring ahead in the Pettus sand below 5,800 feet after the operator was unable to make two successful drill stem tests. The Pettus sand having a good oil odor was reported topped at 5,754 feet and an electrical survey is reported to have shown favorable results. The two drill stem tests were made at intervals from 5,754-68 feet, and several feet of gas-cut mud was reported to have been recovered. On the Sejita prospect, Standard Oil Co. of Texas No. 1 Dolores Garcia topped the Pettus sand at 6,317 feet and 7-inch casing was cemented at 6,317 feet. The casing was cemented as a protection string, although several sands showing oil and gas are reported to have been cored as follows: Oil and gas sand at 2,309-18 feet, oil sand at 2,400½-18 feet, oil sand at 4,796-97 feet, sand showing distillate at 5,373-74 feet, gas sand 5,460-63 feet, gas sand at 5,478-79½ feet, oil and gas sand at 6,227-28 feet, gas sand at 6,234-35 feet, oil and gas sands at 5,252-58 feet, and at 6,302-05 feet. This well is located on a highly regarded geophysical prospect and the progress of the well has been watched with much interest.

Sweden Field

In the Sweden field, Duval County, Hiawatha Oil & Gas Co. was attempting to open a shallow sand with No. 5 Miller, section 23, Ball Ranch Subdivision, about 4,700 feet west of production. This well was drilled to the Pettus sand (the discovery horizon) at 5,984 feet and 7-inch casing was cemented at 5,033 feet, preparatory to testing at 4,909-12 feet, where a recent drill stem test showed several hundred feet of pipe line oil. Sweden was the first field in the Laredo district to find production in the Pettus sand, although additional development has been discouraging in view of the fact that the majority of the wells has been completed as distillate producers. The sand which is being tested corresponds to one of the shallower sands found at the Benavides field (North Sweden) about 5 miles to the north.

M. E. Morton No. 1 Laurel Brothers, one-half mile northwest of the Killam field and about the same distance southeast of Houser and others wet gas well, tested 4,000,000 feet of gas and flowed from 8 to 10 bbls. of oil through a half-inch choke. The Mirando sand was cored last week at 2,013-20 feet, and the hole was drilled to a total depth of 2,025 feet. The well has been killed and the hole will be deepened. Location is in Survey No. 333, Block 9.

Holland and Smith No. 1 Bonham and others, one-half mile southwest of the Ezzell field, Live Oak County, has been shut down temporarily after it flowed oil and salt water from perforated casing at 1,604-09½ feet. When swabbed in the well flowed oil under a working pressure of 75 pounds, but began to show salt water shortly after completion.

McMullen County

Another shallow producing area for McMullen County was indicated by the showing of Vernon G. Schimmel and others No. 2 Kountz, 6 miles northwest of the Seven Sisters field and about a mile north of the Duval County line in Survey No. 5. This well was drilled to a depth of 2,012 feet and the completion was made in the Cole sand at 1,147-63 feet, where it is reported to have shown for a wet gasser, under a casing pressure of 275 pounds and tubing pressure 195 pounds.

First production test of R. E. Hardin and others No. 1 Lynn, 1-mile southeast of Pharr townsite, Hidalgo County, proved disappointing, as two tests through perforated casing at 7,103-15 feet and at 7,074-82 feet showed large quantities of salt water. The perforations have been squeezed off and a third test will be made. In the same county and located north of the Samfordyce field, Phillips Petroleum Co. No. 1 Flores is coring in shale below 5,930 feet, and continues to core broken sand sections showing gas. In the Mercedes field, Union Sulphur Co. No. 1 American-Rio Grande is coring in shale below 9,045 feet.

The most interesting news along the Balcones Fault Line district was the showing of Red Bank Oil Co. No. 1 Coffield, Burleson County. This well was completed several weeks ago as the discovery well of an Edwards lime pool at a total depth of 6,173 feet. It produced at this depth for several weeks, but began to show a large volume of salt water which resulted in the well being deepened. The hole was cored from 6,173-82 feet, encountering hard lime with soft streaks, carrying an oil odor at 6,182 feet, where the well is reported to have flowed oil for three and one-half hours and then died. The company swabbed the hole for several hours and was unable to lower the fluid below 2,400 feet. The hole is being cleaned out and a pumping unit is being rigged up. The showing of this test is expected to result in additional development for this area within the near future.

COMPLETIONS

Bexar County

Von Ormy field: Tom Owen No. 2 Fest, 716 feet, 3 bbls., pumping.

Duval County

Benavides field: Frank Gravis No. 13 Puig, perforated casing 4,792-4,810 feet, 99 bbls., eighth-inch choke. Hoffman field: Cox-Hamon, Gorman and others No. 26 Cuellar, sand 2,838-43 feet, 35 bbls., half-inch choke.

Guadalupe County

Darst Creek field: Humble Oil & Refining Co. No. 7-C Denman, 2,542 feet, 24 bbls., open tubing.

Jim Wells County

Alfred field: Gilcrease Oil Co. No. 3 Adams, 3,333 feet, abandoned.

Nueces County

Luby field: Seaboard Oil Corp. No. 11 Luby, 4,365 feet, 108 bbls., eighth-inch choke. North Agua Dulce field: Union Producing Co. No. 2 Simmons, perforated casing 4,832-62 feet, 16,000,000 feet of gas. Saxet field: Republic Natural Gas Co. No. 22 Dunn, 6,746 feet, 25 bbls. net oil.

Refugio County

Refugio field: W. R. R. Oil Co. No. 1 Mission River, perforated casing 4,908-11½ feet, 108 bbls., eighth-inch choke. Tomoconnor field: Hewitt and Dougherty No. 72 Lambert, 5,910 feet, 114 bbls., three-sixteenths inch choke. Hewitt and Dougherty No. 73 Lambert, 5,903 feet, 608 bbls., half-inch choke. Quintana Petroleum Co. No. 21 Heard, 5,925 feet, 1,366 bbls., three-eighths inch choke.

Starr County

Barbacoas field: Transwestern Oil Co. No. 17-B Cuellar, sand 1,245-82 feet, 15 bbls., pumping.

Victoria County

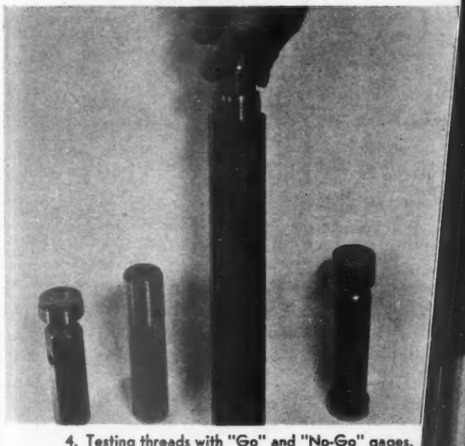
Heyser field: Humble Oil & Refining Co. No. 6 Marshall, 5,485 feet, 15 bbls. per hour, three-sixteenths inch choke. Seaport Oil Co. No. 3 Diemer, perforated casing 5,480-94 feet, 30 bbls. in 11 hours, jetting. Sinclair Prairie Oil Co. No. 15 W. H. Bennett, perforated casing 5,479-86 feet, 127 bbls., 9/64-inch choke.

AXELSON PLUNGERS LIVE A STRAIGHT LIFE

1. Boring, reaming and threading plungers.

2. Cylindrical grinding plungers to semi-finished size.

3. Rockwell test for hardness.



4. Testing threads with "Go" and "No-Go" gages.

An assembly of Axelson interchangeable liners in a pump of any length is as straight as a beam of light and smooth as glass inside. Within this polished cylinder an Axelson plunger with a mirror surface makes straight strokes with uniform metal-to-metal contact and minimum friction and wear in a well of any depth.

To realize this ideal result for the benefit of oil producers who keep an eye on output and unit costs, Axelson has devoted forty years to the study of materials and methods, and has pioneered in every improvement in deep well pump design. Fine parts make fine pumps. A few of the operations shown here in finishing Axelson plungers are characteristic of Axelson methods in the manufacture of all parts and final assemblies.

5. Finish centerless grinding plungers.

6. Polishing plungers to mirror finish in special machine.

7. Draining after dipping for rust prevention.

8. Final inspection.

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AXELSON MANUFACTURING COMPANY — P. O. Box 98, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa

Mid-Continent and Eastern Distributor: Frick-Reid Supply Corporation

Rocky Mountain Distributor: Great Northern Tool & Supply Company

North Louisiana, Arkansas

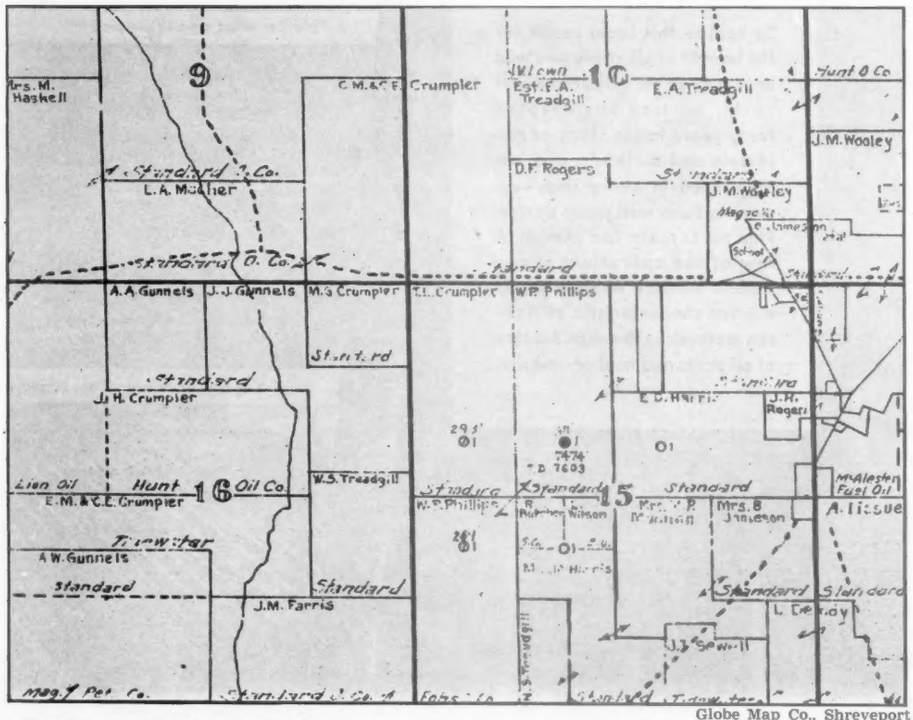
By GEORGE WEBER

Testing Important Outposts in Village and Jefferson Districts

SHREVEPORT, La., Aug. 8.—Testing of two important outpost wells in the Village field of Columbia County, Arkansas, and the Jefferson field of Marion County, Texas, held the spotlight during the past week in the tri-state area. In Louisiana, the principal topic of interest was not one of drilling development, but one of the future policy in developing the newly discovered oil field on the edge of Shreveport.

Drilling in the area near Cross Lake and in the outskirts of the city has been held up pending a ruling by the Department of Conservation, governing the spacing of wells. While a 40-acre spacing pattern is generally agreed upon by operators, petroleum engineers and geologists, as the logical spacing, there has been considerable agitation among landowners in the city area for spacing of 10 acres per well. The subject will be discussed at a hearing set for August 12 in Baton Rouge, and the conservation department will hear both sides of the question and will decide on rules with that testimony as a basis.

Meanwhile, R. E. Allison No. 1 Ellerbee, discovery well of the field, is still shut in awaiting pipe line connections. No move has been made yet to give the well an outlet as developments generally are being postponed until after the hearing.



Globe Map Co., Shreveport

The Village field of Columbia County, Arkansas, is attracting considerable attention

Jefferson Outpost

Arkansas Louisiana Gas Co. No. 1 Johnson, Johnson Survey, Marion County, this week reached critical depth, and the outpost made important tests of the producing horizons of the Rodessa field. Located in a southwest outpost position from the Jefferson section of the Rodessa trend, the well showed the following tops on a Schlumberger survey. Top of the anhydrite 5,242 feet, top of the massive anhydrite 5,982 feet, base of the massive anhydrite 5,756 feet, top of the Henderson 5,982 feet, top of the Gloyd 6,004 feet.

On a drill stem test made this week, at 5,984-6,018 feet, using three-eighths inch bottom choke and half-inch top choke, the well tested an estimated 30,000,000 feet of gas in nine minutes, together with 11 joints of drilling fluid, the top two joints of which consisted of mud and drilling water cut with gas.

The important test came later in the week, however, after the hole had been deepened. The Dees horizon, a coquina, which produces in Rodessa proper to the northeast, was topped at 6,109 feet and was cored to 6,154 feet. with a recovery of about 14 feet. On a drill stem test made in this sand, using a three-eighths inch top choke and a half-inch bottom choke, 2,100 feet of fluid was recovered. The fluid consisted of about four stands of oil, four stands of oil cut with drilling water, and the remaining 12 stands consisting of salt water. The testing tool was open for 14 minutes. Operators will set casing on bottom and perforate for production next week.

The recovery of oil in the Dees sand is of considerable importance. The well, which ran about 40 feet higher than the same operator's No. 1 Pitts located between No. 1 Johnson and the field proper, had only a small section of porous lime in the Hill horizon, which is producing gas in No. 1 Johnson. The Dees, which tested water in the Pitts, appears to promise an oil well to the southwest, and if so, the completion will probably mark discovery of another producing field in the Rodessa trend. The area about the two outposts is difficult to map structurally, due to heavy faulting, and information will come largely from drilling wells.

Meanwhile, Arkansas Louisiana Gas Co. has begun No. 1 Bodgett, a south outpost, in Jefferson townsite, and several hundred feet south of the present limits of production in the field.

Village Operations

The Village field of Columbia County, South Arkansas, is the focus of attention, with two tests at critical depths. Fohs Oil Co. No. 1 Phillips, a southwest offset well to the discovery well, this week failed to make a producer as indicated from last week's tests. After showing recovery of 2,500 feet of oil, 360 feet of mud and 120 feet of salt water at 7,383-89 feet last week, 7-inch casing was set at 7,412 feet., with total depth at 7,424 feet.

The casing was perforated at 7,380-85 feet and tubing was run with a packer set at 7,375 feet. Tubing was open at the top, and a quarter-inch bottom choke was used. In 51 minutes after the tubing was opened, the well began flowing salt water, with a very slight show of oil. It was allowed to flow for 45 minutes, making salt water with 50 pounds on the tubing.

Operators plan to go back and reperforate higher, and were recementing perforations this week-end. This is the first test of the Smackover lime horizon in the Village field since its discovery several months ago in Standard Oil Co. of Louisiana No. 1 Phillips.

Standard Oil Co. No. 1 Crumpler, a west offset to discovery, and a north offset to the Fohs test is approaching the pay formation, and was last reported coring below 7,450 feet after topping the porous oolitic lime at 7,380 feet. The same company is planning to drill No. 1 Minnie Harris shortly, a south outpost located two locations from discovery.

Estimated Production

Estimated daily gross production all companies week ending August 5, 1938:

NORTH LOUISIANA

	Barrels
Bellevue	640
Caddo light	4,390
Caddo heavy	2,375
Converse	560
Cotton Valley heavy	95
Votton Valley light	*11,170
De Soto and Red River	1,385
Elm Grove	385
Haynesville	3,160
Holly	70
Homer	2,615
Lisbon	9,555
Pleasant Hill	90
Rodessa	37,285
Sarepta-Carterville	†535
Sligo	1,495
Sugar Creek	300
Urania	2,750
Zwolle	2,615
Total	81,470

SOUTH ARKANSAS

Buckner	1,205
Champagnolle	1,085
El Dorado	1,840
Lisbon	270
Miller County	390
Nevada	640
Rodessa	7,065
Schuler	21,160
Smackover light	2,065
Smackover heavy	16,060
Stephens	555
Troy	1,220
Urbana	1,175
Village	220
Total	54,950

Texas side of Rodessa field 31,785 bbls. daily.

*3,880 bbls. is distillate.
†240 bbls. is distillate.

Lisbon Extension

The Lisbon field of Claiborne and Lincoln parishes, North Louisiana, was extend a quarter mile during the week by completion of Harry Fotiades No. 1 C. S. Rogers, C NW NW section 13-20-5. The southeast out-

(Continued on Page 82)

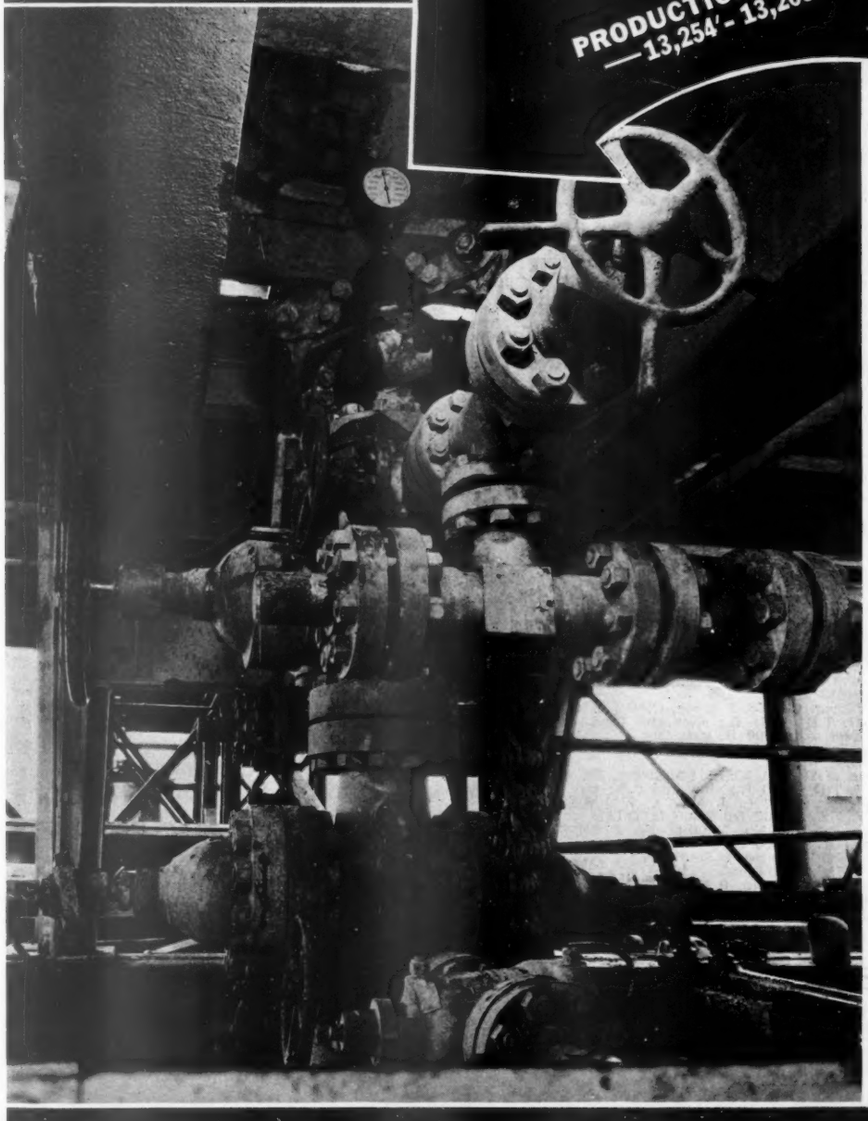
WORLD'S DEEPEST FLUSH PRODUCER

Drilled-in ✓ Completed ✓ Flowing ✓

THROUGH A CAMERON TYPE CHR SAFETY XMAS TREE

FLOWING PRESSURE —4650 POUNDS

PRODUCTION DEPTH —13,254' - 13,266'



Producing from 13,254-13,266 feet, with a surface flow pressure of 4,650 pounds, Fohs Oil Company's No. 1 Buckley-Bourg, Terrebonne Parish, Louisiana, holds all laurels as the world's deepest flush producing oil well.

A special 10,000 lbs. test Cameron Safety Xmas Tree, incorporating a Cameron Type MR ram-type tubing control head, provided sure, positive control of the well while tubing was run, bottom hole packers set, and the well washed-in. 13,103 feet of tubing, consisting of 11,074 feet of 2⅞" O.D. Grade "D" 6.5 lb. and 2029 feet of 2⅜" O.D. Grade "D" 4.7 lb. tubing, weighing a total of 81,517 lbs., is landed on the closed rams of the 7"—10,000 lbs. test Type MR control head, which provides rigid suspension and a pressure-tight seal of the annular space between 7" oil string and tubing string. In addition, the presence of the ram-type control head in the Xmas Tree makes possible safe re-entrance to the well at any time reconditioning operations may become necessary.

The Buckley-Bourg Cameron Safety Xmas Tree is but one of many high-test, extremely flexible, extremely dependable control manifolds that have been furnished in the past few months to operators in high pressure areas where positive control is vitally essential at every stage of the drilling-in and completion operations.

Without the slightest obligation, an experienced Cameron field man will gladly outline in detail the numerous exclusive features of Cameron Safety Xmas Trees, and how they provide a wide extra margin of safety during drilling-in and completion work. Write, wire, or 'phone for details.

CAMERON IRON WORKS, INC.

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EXPORT: 74 Trinity Place, New York, N. Y.

Rocky Mountain Area

By
T. R. INGRAM

Minnelusa Productive Sand Is Extended in Lance Creek

DENVER, Colo., Aug. 8.—Stanolind Oil & Gas Co. No. 3-SD Shaw, an old well on the Iles dome, Colorado, was deepened through the Sundance and recompleted for 250 bbls. per day. Plymouth Oil Co. deep test in the Denver Basin, is getting under way.

Minnelusa sand productive area at Lance Creek, Wyoming, was extended half a mile southeast in Minnelusa Oil Co. No. 1 H. & M.-3, which made 2,608 bbls. the first day from the Leo horizon. Sand Creek Oil Co. No. 1 Prokesh, in the Shawnee district, which came in for 10,000,000 feet of gas, went dead, was deepened 2 feet and completed for 2,500,000 feet. Continental and Ohio Oil companies each made a new location in Lance Creek.

Montana had one completion, a 145-bbl. well for Texas Co. in the Cut Bank field, and one new operation.

Two small wells of high-gravity oil were completed in San Juan County, New Mexico, in Continental Oil Co. No. 77 Rattlesnake, and Goodrun and Vincent No. 1 Goodrun.

California Co. North Dakota wildcat has reached nearly 10,000 feet and established a new record for the Rocky Mountain area. It may go to 12,000 feet.

NEW MEXICO

Largest of two producers completed in the Vacuum field, Lea County, southeastern New Mexico, was Shell Petroleum Corp. No. 3-A State, C SE NE section 31-17-35. It topped pay at 4,325 feet, was bottomed at 4,690 feet and had initial production of 280 bbls. of oil in five hours. Gas gauged 1,180,000 feet.

Magnolia Petroleum Co. No. 11 State-Bridges, C SE NW section 25-17-34, the other Vacuum completion of the week, flowed 75 bbls. of oil initially in five hours from pay topped at 4,292 feet, total depth 4,720 feet. Flow was through 2½-inch tubing set at 4,719 feet.

The north spread of the Monument field was limited at Gulf Oil Corp. No. 2-D Kutter, C SE SW section 8-19-37. It was bottomed at 4,155 feet in lime, plugged back to 4,100 feet and was acidized but was dry and abandoned.

In the Eunice field, Mid-Continent Petroleum Corp. No. 3 Marshall, SW cor. section 12-21-36, topped pay at 3,720 feet, total depth 3,829 feet, flowed 50 bbls. of oil naturally, was acidized and flowed 334 bbls. of oil daily, with 3,000,000 feet of gas.

Weiner No. 1 Smith, NE cor. section 4-25-37, Jal district, flowed initially at the rate of 18 bbls. of oil an hour, with 1,500,000 feet of gas, from pay topped at 3,448 feet, total depth 3,545 feet.

Magnolia Petroleum Co. No. 1 Corrigan, C SW SE section 33-21-37, Hardy area, found pay at 3,675 feet, was bottomed at 3,759 feet, and flowed 280 bbls. of oil daily through tubing set at 3,757 feet.

Gulf Oil Corp. No. 5 McCormack, C SW NE section 32-21-37, flowed 381 bbls. of oil daily through tubing from pay topped at 3,685 feet, total depth 3,770 feet. Gas gauged 900,000 feet daily.

Continental Oil Co. No. 1-A-15 Elliott, SE cor. section 15-22-37, Penrose pool, had initial flow of 30 bbls. of oil daily from pay at 3,682-85 feet, total depth.

Lea County

Addison Oil Co. No. 3 Knight, C NE NW sec. 27-24-37. Drlg. 1,340 ft.
Amerada Pet. Corp. No. 3 State, C NE SW sec. 23-17-34. Drlg. 4,623 ft.
Anderson-Prichard Oil Corp. No. 2 Carlson-Harrison, NW NE SE sec. 22-25-37. T.D. 3,366 ft.; shot and est. 10 B.O.P.D.
Anderson-Prichard Oil Corp. No. 1 Stuart, C W½ SW NE sec. 10-25-37. T.D. 3,437 ft.; pay 3,415 ft.; tstg.
Anderson-Prichard No. 3 Wells, C NE NW sec. 5-25-37. C.&P.
Cities Service and Repollo No. 3 Brunson, C SW SE sec. 4-22-37. Drlg. 2,900 ft.
Continental Oil Co. No. 2 Britt B-15, C W½ SW NW sec. 25-20-37. W.O.C. 1,235 ft.
Continental Oil Co. No. 1 Elliott, C NE NE sec. 17-22-37. T.D. 3,703 ft.; acd. and flwd. 160 B.O. 10 hrs.
Continental Oil Co. No. 1 Hawk B-6, NW NW SE sec. 6-21-37. Loc.
Continental Oil Co. No 1 Jack A-29, NE NE NE sec 29-24-37. Drlg. 3,208 ft.
Continental Oil Co. No. 6 Reed, NE SW SE sec. 23-20-36. Drlg. 2,700 ft.
Continental Oil Co. No. 1 State G-36, C NW SW sec. 36-17-35. Loc.
Continental Oil Co. No. 1 State I-7, NE NW NE sec. 7-17-34. Drlg. 4,185 ft.
Continental Oil Co. No. 1 State K-29, C SW SW sec. 29-16-37. T.D. 4,915 ft.; W.O.C.
Culbertson & Irwin No. 1 Dabbs, NE NE NW sec. 35-25-37. T.D. 3,331 ft.; C.O. after shot; no est.
Culbertson & Irwin No. 1 Henry, C N½ NW SW sec. 26-25-37. T.D. 3,330 ft.; flwd. 78 B.O. in 12 hrs.; tstg.
M. J. Delaney Drlg. Co. No. 1 State, C SE NW sec. 30-17-35. Loc.
Getty Oil Co. No. 3-F State, C NW NW sec. 36-17-34. W.O.C. at 270 ft.
Great Western Prod. Co. No. 1 Leonard, C SE NE sec. 32-23-37. R.U.R. 252 ft.
Great Western Prod. Co. No. 1-C State, C NE SW sec. 7-19-37. T.D. 4,081 ft.; P.B. 4,070 ft.; pmpd. 51 B.O. in 13 hrs.; tstg.
Gulf Oil Corp. No. 4 Day, SE SW NW sec. 6-22-36. M.I.R.
Gulf Oil Corp. No. 1-E Mattern, C NW SW sec. 1-22-36. T.D. 3,765 ft.; flwd. est. 25 B.O.P.H. for 6 hrs.; est. 2,500,000 ft. gas.
Magnolia Pet. Co. No. 2 Brunson-Argo, C NE NE sec. 9-22-37. T.D. 3,583 ft.; drlg. plug.
Magnolia Pet. Co. No. 2 Corrigan, C SE SE sec. 33-21-37. C.&P.
Magnolia Pet. Co. No. 1-L State, C SE SW sec. 21-17-35. Drlg. 3,215 ft.
Magnolia Pet. Co. No. 12 State-Bridges, C SE SE sec. 26-17-34. T.D. 4,725 ft.; flwd. 462 B.O. in 25 hrs.
Magnolia Pet. Co. No. 13 State-Bridges, C SW NW sec. 25-17-34. Drlg. 3,365 ft.
Magnolia Pet. Co. No. 14 State-Bridges, C SW NE sec. 25-17-34. Drlg. 1,619 ft.
Magnolia Pet. Co. No. 15 State-Bridges, C SW SE sec. 26-17-34. C.&P.
Maljamar O. & G. Co. No. 10 Baish, C SW NW sec. 22-17-32. T.D. 4,006 ft.; S.D.; repairs.
Maljamar O. & G. Co. No. 11 Baish, C NW NW sec. 22-17-32. T.D. 3,847 ft.; rng. csg.
Maljamar O. & G. Co. No. 4 Mitchell, C NE NE sec. 20-17-32. T.D. 4,097 ft.; tstg.
Maljamar O. & G. Co. No. 5 Mitchell, C NW NW sec. 19-17-32. T.D. 4,033 ft.; P.B. 4,030 ft.; acd. and swb. 25 B.O.P.D.
Jas. A. Mascho No. 2 Cloyd, C SW SW sec. 20-22-33. Drlg. 3,362 ft.
G. T. McLaughlin No. 1 Polhamus, NE sec. 9-24-37. T.D. 3,672 ft.; P.B. 3,643 ft.; shot and S.I.
John Menke No. 1 Alexander, C NW NW sec. 5-21-37. R.U.R.
Ohio Oil Co. No. 2 State-McCallister, C NE SW sec. 25-17-34. Drlg. 3,807 ft.
Olean Pet. Co. No. 1 Boyd, C NW SW sec. 23-22-37. R.U.M.
Olean Pet. Co. No. 1 Ferrell, C NE SE sec. 22-22-37. Drlg. 183 ft.
Parker Drlg. Co. No. 2 Irwin, C W½ NW SW sec. 35-24s-37. T.D. 3,481 ft.; shot and flwd. 44 B.O. in 2 hrs.; est. 5,000,000 ft. gas; tstg.
Parker Drlg. Co. No. 1-A State, C SW SW sec. 21-22-37. Drlg. 620 ft.
Penrose & Rowan No. 1 Christmas, SE cor. sec. 28-22-37. T.D. 3,690 ft.; shot and C.O.; pay 3,556 ft.
Lem Peters No. 2 L. J. May, C W½ SE SE sec. 27-22-37. Drlg. 3,632 ft.; 2,000 ft. O.I.H.
Phillips Pet. Co. No. 7 Santa Fe, C SE SW sec. 27-17-35. Drlg. 3,590 ft.
Phillips Pet. Co. No. 8 Santa Fe, C NW NW sec. 5-18-35. Drlg. 4,166 ft.
Phillips Pet. Co. No. 9 Santa Fe, C SE SE sec. 21-17-35. Drlg. 3,328 ft.
Repollo Oil Co. No. 2 Hair, NW SW NW sec. 9-24-37. T.D. 3,385 ft.; R.U.R.
Repollo Oil Co. No. 2 Turner, SW NE SW sec. 29-21-37. T.D. 3,656 ft.; rng. csg.
Repollo Oil Co. No. 5-B Whitten, NW NW NE sec. 4-24-36. T.D. 3,725 ft.; P.B. 3,639 ft.; flwd. 13 B.O. in 4 hrs. and died.
Repollo Prod. Co. No. 2 State, C SW SW sec. 32-17-35. Drlg. 3,220 ft.
J. M. Rush No. 2 State, NW NW SE sec. 20-20-37. Drlg. 3,835 ft.; acd. and flwd. 170 B.O. in 8 hrs.
Shasta Oil Co. No. 2 Woolworth, NE NW NW sec. 28-24-37. Drlg. 3,440 ft.
Shell Pet. Corp. No. 1-D State, C SW SW sec. 31-17-35. Drlg. 4,202 ft.
Shell Pet. Corp. No. 1-G State, C SE SE sec. 22-17-34. Drlg. 3,083 ft.
Shell Pet. Corp. No. 3-H State, C W½ SE NE sec. 13-21-35. Drlg. plug 3,767 ft.
Shell Pet. Corp. No. 1 Swigart, C NE SE sec. 25-17-34. Loc.
Skelly Oil Co. No. 1 Baker, C SW SW sec. 10-22-37. Loc.
Skelly Oil Co. No. 6 Baker, C SW NE sec. 27-22-37. R.U.S.T.
Skelly Oil Co. No. 1-M State, C SW SW sec. 32-24-37. Drlg.
Stanolind O. & G. Co. No. 4-B Langlie, C NW SW sec. 14-25-37. Drlg. 2,764 ft.
Stanolind O. & G. Co. No. 5-B Langlie, C SE SE sec. 9-25-37. Loc.
Stanolind O. & G. Co. No. 5-B Myers, C NE SW sec. 9-24-37. T.D. 3,610 ft.; rng. tbg.
Standard Oil Co. of Texas No. 1 State, C SW NW sec. 32-17-35. T.D. 4,670 ft.; acd. and swb. 28 B.O.P.D., 10% wtr.
So. Pet. Expln. Co. No. 3 Downes, C NE SW sec. 32-21-37. Drlg. 2,940 ft.
Texas Co. No. 3 Black, C NW NE sec. 21-24-37. T.D. 3,600 ft.; fsg.
Texas Co. No. 4 Black, C SE NW sec. 21-24-37. C.&P.
Texas Co. No. 3-A Falby, C SE NW sec. 8-22-37. Drlg. 3,432 ft.
Texas Co. No. 5 Fristoe, NW SE SE sec. 3-25-37. R.U.M.
Texas Co. No. 3 J. S. Lea, SW NE SW sec. 14-20-34. T.D. 3,529 ft.; W.O.C.
Texas Co. No. 2 Fanning, C NW NE sec. 4-26-37. Drk.
Texas Co. No. 1-N State, C SW SW sec. 30-17-35. T.D. 4,850 ft.; P.B. 4,693 ft.
Texas Co. No. 2-D State, C SW NW sec. 27-17-34. Drlg. wtr. well; T.D. 4,800 ft.; acd. and flwd. 1½ B.O.P.H.; R.U. pmp.
Texas Co. No. 4-O State, C NE SE sec. 36-17-34. T.D. 4,710 ft.; rng. tbg.
Texas Co. No. 5-O State, C SE NW sec. 36-17-34. T.D. 4,725 ft.
Texas Co. No. 6-O State, C NW SE sec. 36-17-34. Drlg 4,306 ft.
Texas Co. No. 3-Q State, C NW SE sec. 25-17-34. C.&P.
Texas Co. No. 1-R State, C NE NE sec. 6-18-35. Drlg. 3,723 ft.
Texas Co. No. 2-R State, C NW NE sec. 6-18-35. Drlg. 4,556 ft.; S.O.&G.
Tide Water Asso. Oil Co. No. 1-L State, C NE NW sec. 23-12-36. Drlg. 1,827 ft.
Warren L. Todd No. 1 Lemon, C NW SW sec. 17-21-32. O.W.D.D.; old T.D. 3,752 ft.; drlg. 3,775 ft.
Twin Oil Co. No. 1 Joyce-Pruitt, C SE SE sec. 31-21-37. Drlg. 3,601 ft.
Twin Oil Co. No. 2 Corrigan, C NE NE sec. 4-22-37. Drlg. 2,580 ft.
Twin Oil Co. No. 1 State, C SW SW sec. 22-17-35. W.O.C. at 1,712 ft., T.D.
Two States Oil Co. No. 3-B Cole, C SE NE sec. 16-22-37. Drk.
Two States Oil Co. No. 1-B Hill, C NE NW sec. 5-21-37. Drlg. 1,358 ft.
Weier Drlg. Co. et al No. 1 Woolworth, NE NE SW sec. 28-24-37. Drlg. 3,070 ft.
Weiner No. 1 Parcell, C SW NE sec. 8-23-28. T.D. 4,498 ft.; S.D.O.
Western Gas Co. No. 1 Matkins, C SE SE sec. 15-23-26. T.D. 3,853 ft.; P.B. 3,642 ft.; flwd. 13 B.O. in 20 hrs.; now 14,000,000 ft. gas with S.S.O.

Eddy County

F. E. Baker No. 1 Eddy, NE sec. 12-22-27. T.D. 2,480 ft.; setting csg.
Carper Drlg. Co. No. 1 Day, NE NE NE sec. 3-19-31. M.I.M.
D. & B. Oil Co. No. 3 Berry, NW SW NW sec. 20-17-30. T.D. 3,300 ft.; acd. and S.I.
D. & B. Oil Co. No. 3-A Jenkins, SW SW NW sec. 21-17-30. Loc.
Dominion O. & G. Co. No. 2 Johnson, C SE NE sec. 35-16-31. Drlg. 1,650 ft.
English & Harmon No. 1 Dougherty, NE NE SW sec. 3-17-27. Drlg. 1,250 ft.
Franklin Pet. Corp. No. 1 McIntyre, NW NE SE sec. 20-17-30. Drlg. 1,670 ft.
Fullerton Oil Co. No. 1-A Johnson, C SE NW sec. 35-16-31. Drlg. 2,603 ft.
Fullerton Oil Co. No. 1-A Little, C NE NE sec. 28-18-31. Loc.
C. F. Ingram No. 1 Page, NE NE SW sec. 15-21-28. T.D. 2,205 ft.; S.D.O.
F. G. Keys No. 2 State, C SE NE sec. 9-17-28. Drlg. 1,100 ft.
Harry Leonard No. 1 Texas, NW NW NE sec. 36-16-31. Drlg. 3,319 ft.
Nash, Windfohr & Brown No. 5-A Stevens, C SE SW sec. 13-17-30. Drlg. 3,310 ft.; gauged 7,000,000 ft. gas.
Paton Bros. No. 2 Ginsberg, C SE SE sec. 8-18-31. T.D. 3,185 ft.; S.I. for storage.
Peyton Bros. No. 1 Erwin, C SW SW sec. 9-18-31. Loc.
Premier Pet. Co. No. 1 Maddren-Beeson, NE SW SE sec. 28-17-30. Loc.
Repollo Oil Co. No. 3 Beeson, SE NE SE sec. 28-17-30. M.I.M.
Repollo Oil Co. No. 4-A Parke, NW SE NW sec. 22-17-30. Drlg. L. 3,437 ft.; 200 ft. O.I.H.
Rudco O. & G. Co. No. 5 Yates, C NE NW sec. 33-18-28. T.D. 2,759 ft.; pay 2,726-35 ft.; acd. and est. 5 B.O.P.D.
V. P. Leach No. 1 Lewis, SE SW SE sec. 5-16-28. Drlg. 2,750 ft.
Western Drlg. Co. No. 2-A Western, SE SE NW sec. 23-17-29. Drlg. 2,390 ft.
Neil H. Wills No. 2 Stovall-Wood, SE SE NW sec. 20-20-30. Drlg. 910 ft.
Yates-Dooley No. 1 Creek, C SW NE sec. 35-18-30. T.D. 570 ft.; C.O. at 548 ft.

Chaves County

E. J. Fisher No. 1 Foster, C NW NW sec. 7-15-26. T.D. 562 ft.; W.O.C.
Grastorf & Caudill No. 1 Smith, C NE NE sec. 1-4s-29. Wildcat; new hole; drlg. 3,598 ft.
Nay Hightower No. 1 Billingslea, C SW NE sec. 29-11-30. R.U.S.T.

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to help prevent bad losses of circulation.

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Type B Socket

Sold by Supply Stores

Manufactured in Tulsa by
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O'BANNON SUCKER ROD SOCKETS

Interstate Minerals, Inc., No. 1 Dunigan, NW cor. sec. 15-15-30. T.D. 2,485 ft.; W.O.C.
J. & L. Drlg. Co. No. 2 Hurd, SW sec. 11-11-26. T.D. 1,000 ft.; fsg.

De Baca County

N. F. Woods No. 1 Jones, C NE SW sec. 17-4n-20. Drlg. 320 ft.

Otero County

Fred Turner, Jr., No. 1 Ella Everett, C SE SE sec. 34-22-13. Drlg. L. 3,852 ft.
Fred Turner, Jr., No. 1 H. V. Everett, SE SE sec. 28-22-13. S.D. 3,785 ft.; S.D.O.

COLORADO

Archuleta County

Boone Dev. Co. No. 1 Newton, SE NW SE sec. 18-33n-1e. T.D. 303 ft.; W.O. 10-in.
Pagosa Oil & Dev. Co. No. 1 Macht, C sec. 32-36-1w. T.D. 1,520 ft. in Mancos sh.; pulling 6-in. to S.R.; S.O. in several stray sds. 1 ft. or more thick.

Elbert County

Plymouth Oil Co. has let the contract for its Dakota test on the Rich structure near Ramah to Buchanan Drilling Co., of Houston, Tex., and 15 cars of equipment and supplies are now on the siding at Ramah or en route. Diesel power will be used. Water well has been completed. Construction of 138-foot derrick has begun. Ground elevation is 6,225 feet.

Plymouth Oil Co. No. 1 Brosky-Union Pacific, C SW SW sec. 19-10s-60w. Bldg. rig.

Fremont County

Stanley Thomas No. 1 Rickwalt, SE SE sec. 2-19s-70w. Drlg. 1,620 ft.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE sec. 36-7s-88w. Res. 875 ft.

Grand County

Interstate O. & R. Co. No. 1 Hinman, NE SE NW sec. 11-2n-81w. S.D. 3,920 ft.; will D.D. to Morrison.

Hueriano County

J. G. Tompkins & Sons No. 1 Pressey, NE NE NE sec. 10-29s-69w. S.D. 411 ft.; (prospecting for coal).
S. W. Pressey No. 2 Alamo, C SW SE sec. 3-27s-68w. S.D. 1,320 ft.

LaPlata County

N. Spatter No. 1-X Bryce, SE SW SW sec. 31-33n-9w. Drlg. below 1,200 ft.

Las Animas County

Garcia Corp. No. 1 McClung, which has been shut down for some time at 2,000 feet, has resumed. It is being financed by W. H. McFadden, of Colorado Springs, a former vice president of Mariand Oil Co.

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61w. Drlg. 2,239 ft. in Fountain arkose.

Mesa County

Continental Oil Co. et al No. 1 Miller, SW SW NW sec. 36-8s-91w. Drlg. sdy. sh. 5,647 ft.

Moffat County

Stanolind Oil & Gas Co. No. 3-SD Shaw, NW NE NE section 27-4n-92w, an old producer in the Upper Sundance in the Iles field, was deepened from 3,262 feet to 3,517 feet and recompleted for 250 bbls. per day on the pump. A 5-inch liner was cemented at 2,942-3,481 feet and perforated.

C. R. Privett No. 1 Sutton, a wildcat on the Dry Lake structure, which last week was reported to have encountered a show of gas at 630 feet which cleared the hole of water, will not drill into the sand, identified as the Frontier, until the 10-inch is run and cemented on bottom to shut off water.

Morapas Pet. Corp. No. 1 Coles, SW SW SE sec. 1-3n-92w. S.D. 2,750 ft. for 8¼-in.
C. R. Privett No. 1 Sutton, NE NE SW sec. 1-5n-96w. S.D. 530 ft.; to run and cmt. 10-in.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NW sec. 31-36s-17w. Drlg. 4,666 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75w. Drlg. sh.&shls. 6,010 ft.

Prowers County

Continental Oil Co. No. 1 Ruby, C NE NW sec. 31-21s-44w. T.D. 5,065 ft.; fsg. D.P.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek, SW SE sec. 29-19s-64w. S.D. after R.U.
C. E. Puckett No. 1 Barber, NW sec. 35-21s-66w. Drlg. below 630 ft.

Rio Blanco County

Buford Oil Co. No. 1 Govt., C SW SW sec. 16-1n-91w. T.D. 2,430 ft.; landed 8¼-in. on bttm. and drlg. ahd. in gr. Pennsylvanian.

Routt County

Steamboat Springs Drlg. Synd. No. 1 Brown, C NW NE sec. 1-6n-86w. Drlg. 750 ft. below Frontier which showed little wtr.
Craig & Moore No. 1 Erwin, C SW NE sec. 33-7s-85w. T.D. 1,042 ft.; U.R. 10-in. to set on bttm.

WYOMING

Big Horn County

A. L. Rankin No. 1 Karjala-Rankin, C SW NW sec. 10-54n-94w. Drlg. 300 ft.

Prescott & Mileski No. 1 Govt., NE NW SW sec. 15-1n-93w. S.D. 550 ft.
Clifford S. Johnson No. 1 Johnson, CEL NW NW sec. 24-51n-93w. Rig; W.O. engine.
Joan Oil Co. No. 1 Howell, NE NW NE sec. 32-55n-97w. Drlg. 2,470 ft.

Carbon County

Ohio Oil Co.-California Co. No. 5-A Kyle, C NE NW sec. 26-21n-79w. Loc.
Ohio Oil Co. No. 2-A Baker, NW SW SW sec. 2-23n-79w. Bldg. rig.
Sinclair-Wyoming Oil Co. No. 3 Mahoney, C SE NW sec. 34-26n-88w. T.D. 397 ft.; cmtd. 13⅜-in. 374 ft.; W.O.C.
Ohio Oil Co.-California Co. No. 3-A Kyle, C SW NE sec. 26-21n-79w. Drlg. 6,630 ft.; top r.b. 5,983 ft.
Producers Oil Co. No. 1 Lake Valley, 200 ft. C of CNL sec. 14-20n-88w. Drlg. 1,916 ft.

Converse County

Sand Creek Oil Co. No. 1 Prokesh, NW SW SE section 29-32n-69w, in the Shawnee district, which came in last June for 10,000,000 feet of gas, estimated, at 633 feet, before hole was cased, was dry when opened up the past week. It was cased and drilled 2 feet deeper to 635 feet when gas came back, but in smaller quantity. It is listed as a completion for 2,500,000 feet per day.

Equipment has been moved away from Ainsworth Oil Co. No. 1 Marberger, NE SE NE section 34-32n-69w, which was shut down in May at 784 feet.

Jack Decker et al No. 1 Simonson, NW NE SE sec. 16-32n-68w. Drlg. 535 ft.
Wyshawn Oil Co. No. 2 Lindley, C SW SW sec. 35-32n-69w. Drlg. 1,050 ft. in Chugwater r.b.; S.O.&G. in Sundance.
Fred Bunker No. 1 Pestal, SE NE NE sec. 32-32n-69w. Drlg. 375 ft.
New Era Fuel Co. No. 2 Mary Gasper, CNL NW SW sec. 25-32n-69w. T.D. 670 ft.; rng. tbg. to test.
Wyshawn Oil Co. No. 1 Lindley, NW SE SE sec. 34-32n-69w. T.D. 2,000 ft.; wtr. in Embar; M.I. steel rig from Salt Creek.

Fremont County

Lincoln O. & G. Co. No. 1 Shoshone, NW NW SE sec. 23-1s-1e. Spdg. 20 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 3,368 ft.
Consolidated Oil Properties No. 3 Ewart, C SW SE sec. 16-1n-1w. Drlg. 890 ft.
Ben Stewart No. 1 Darnell, NE SE sec. 26-3n-1w. S.D. 2,245 ft. for 7-in.

Hot Springs County

Italo Pet. Co. No. 1 Skelton-Govt., SE SW NE sec. 13-44n-98w. T.D. 300 ft.; trying to set 20-in. at 215 ft. for W.S.O.
J. W. Bailes No. 1 Govt., SE SW sec. 28-43n-93w. T.D. 1,082 ft.; P.B. to 1,015 ft.; tstg.
D. D. Gibson No. 26 fee, SW NW SE sec. 35-43n-93w. T.D. 1,063 ft.; tstg.
California Expln. Co. No. 1 Govt., NE SE NE sec. 12-44n-97w. T.D. 4,100 ft. in Embar L.; tstg.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW sec. 23-21n-117w. Drlg. 865 ft.

Natrona County

General Pet. Corp. No. 1 State, NW NE SE sec. 16-35n-77w. R.U.R.; W.W. compl. at 1,200 ft.
Stanolind O. & G. Co. No. 26 T.P.-Wyo. Asso., C SE SW sec. 26-40n-79w. T.D. 4,050 ft.; top Tensleep 3,892 ft.; cmtd. 6⅝-in. at 4,060 ft.; tstg.
Stanolind O. & G. Co. No. 8 T.P.-Midwest Oil, C NW SW sec. 35-40n-79w. Bldg. rig.

Niobrara County

An important extension of the Leo producing horizon on the southeastern side of Lance Creek took place in Minnelusa Oil Co. No. 1 H. & M.-3, NW NE NE section 8-35n-65w, which made 2,608 bbls. the first 24 hours through the tubing and 2,616 bbls. open second 24 hours. This is one of the best Leo sand wells in the field. Total depth is 5,543 feet and rotary table elevation 4,510 feet. It had the first sand in the Leo zone at 5,490-5,513 feet. This was followed by a lime break at 5,513-15 feet and more sand at 5,515-43 feet. It started flowing at the rate of 112 bbls. per hour with a pressure of 1,300 pounds on the tubing. It is approximately half a mile southeast of Continental Oil Co. No. 3-A Diehlman, a Sundance sand well which made 1,632 bbls. initially, and half a mile south of Ohio Oil Co. No. 10 Lamb, which made 1,666 bbls. the first day at 5,423 feet, total depth. It is approximately on the same structural contour as Leo sand wells 2 miles to the northeast.

The location for an offset to the new well on the north was released in Ohio Oil Co. No. 11 Elizabeth Lamb, Acct. 2, in the SW SE SE section 5. It also will require an offset on the west by Continental Oil Co.

Continental Oil Co. released location for No. 13 Tom Bell Cattle, an inside well.

Continental Oil Co. No. 13 Tom Bell, SE NE SE sec. 33-36n-65w. Loc.
Ohio Oil Co. No. 11 Lamb, Acct. 2, SW SE SE sec. 5-35n-65w. M.I.M.
Fall River Royalty & Producers Co. No. 1 Govt., CSL SE SE sec. 35-40n-61w. Set 18 ft. of cond. pipe.
Continental Oil Co. No. 3 Apex-3, NW NE NW sec. 34-36n-65w. Cg. 3,441 ft.
H. D. Moore et al No. 1 Beregren, NW sec. 23-35n-63w. T.D. 1,127 ft.; U.R. to set csg. on bttm.

Park County

Ohio Oil Co. No. 1 Trans-Ark., CSL SW SW sec. 30-57n-98w. Drlg. 5,683 ft. in hd. tight sd.; no shows in Sundance.
Valentine & Watson No. 1 Johnson, NE NE NE sec. 6-57n-99w. Drlg. 2,469 ft.
Resolute Oil Co. No. 2 State, C SW SW sec. 16-57n-101w. Drlg. 4,820 ft.
Continental Oil Co. No. 1 Northern Pacific, SE SE NW sec. 23-58n-98w. Drlg. sh. 1,445 ft.

Sublette County

Frontier Pet. Co. No. 1 Govt., SE SE SW sec. 1-28-114w. M.I.M.
Yellowstone Oil Co. No. 1, 200 ft. N of S line of the H. L. Budd ranch, SE SE sec. 31-31n-112w. Drlg. 100 ft.
Wyo. Pet. Corp. No. 1 Chas. Budd, C NE NE sec. 10-29n-113w. T.D. 250 ft.; cmtd. 13⅜-in. at 168 ft.; will test S.O. in sd. topped at 232 ft.
Progressive Oil Co. No. 1 Haddenham, C NE SE sec. 21-28n-113w. Drlg. 832 ft.

Uinta County

Stove Creek Oil Co. No. 1 Govt., C SE NW sec. 26-14n-119w. Res. at 1,400 ft.
Stove Creek Oil Co. No. 2 Govt., C SW NW sec. 26-14n-119w. Spdg. 30 ft.

Weston County

Hugh Updike No. 1, CEL NW SE sec. 15-46n-64w. R.U.
Federal Oil Co. No. 9, CNL SE SE sec. 15-46n-64w. Ready to spd.
Des Moines-Osage Oil Co. No. 15, SW SW SE sec. 30-46n-63w. Drlg. below 1,000 ft.
Geo. Keisling No. 1, NW NE NE sec. 35-46n-64w. Drlg. 350 ft.
Wyoming O. & G. Co. No. 19, NW NW SE sec. 19-46n-63w. Top sd. 1,412 ft.; rng. csg.; S.O.
Gose Oil Synd. No. 1, NE NE NE sec. 28-47n-63w. C.O. after landing 4¾-in. at 4,900 ft.
West Osage Oil Co. No. 3, SW SE NE sec. 15-46n-64w. Hd. tight sd. 2,140-54 ft.; will shoot.
John Brorphy No. 1 George, SW SE NW sec. 26-48n-64w. T.D. 2,080 ft.; W.O. csg.

MONTANA

Montana gasoline sales in June amounted to 14,226,711 gallons, of which 3,314,353 gallons were imported and 10,912,358 gallons were produced in Montana. Exports amounted to 3,257,799 gallons, leaving a net consumption in Montana of 10,968,912 gallons.

August 1 to August 7, inclusive, was proclaimed a Montana-made gasoline week by Governor Roy E. Ayers, in furtherance of the campaign being conducted by the Shelby Lions Club committee, of which L. R. Hannah is secretary. O. I. DeSchon's Montana Oil Journal issued a special 16-page supplement in the interest of the campaign. The Lewistown Democrat-News also distributed the supplement.

Figures of the Montana State Board of Equalization are cited to show the progress of the movement. Total sales of gasoline in Montana in the first six months of 1938 were 49,783,109 gallons, as compared with 48,046,592 gallons in the same period of 1937. Sales of Montana-made gasoline the first six months of this year were 70 per cent of total sales, which compares with 53 per cent in the first six months of 1937.

Carbon County

R. C. Tarrant No. 2, SE NW sec. 4-6s-18e. Drlg. 910 ft.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. S.D. 1,810 ft.
R. C. Tarrant No. 2 Heare, NW SE NW sec. 14-6s-19e. Drlg. 2,000 ft.; 10-in. 1,788 ft.
Sha-Wa Pet. Co. No. 1 Govt., SW NW NE sec. 35-9s-23e. S.D. 3,124 ft.
Miracle Oil Co. No. 2 Govt., CWL NE SE sec. 3-6s-23e. S.D. 2,381 ft.; (C.D.).

Dawson County

Frank C. Hughes No. 1 fee. NW NE SE sec. 5-14n-55w. Drlg. 1,095 ft.

Fallon County

Montana-Dakota Utilities Co. No. 45-Unit 7, SE NW SW sec. 15-6n-60e. Drlg. 190 ft.

Fergus County

Baughman & Singley No. 1 Skaggs, C NW SW sec. 7-15n-20e. Drlg. 1,120 ft.

Glacier County

Texas Co. had a good completion in the southern part of the Cut Bank field in its No. 3 Hardwick, C NE NE section 17-32n-5w, which swabbed 145 bbls. the first 12 hours at 2,957 feet, total depth, from the Cut Bank sand at 2,910-53 feet. The pay was at 2,940-53 feet.

There was one new operation getting under way.

K. D. Pardee No. 1 Tribal-179, SE NW SE sec. 12-32n-6w. Bldg. rig.; (first report).
Dr. Peter Potter No. 3 All.-125, NE NW NE sec. 12-32n-6w. Spdg. 50 ft.
Lawler No. 3 Hoerr-Harlan, NE SW SW sec. 5-33n-5w. R.U.
Glacier Prod. Co. No. 2 Mueller, CSL NE NE sec. 18-33n-5w. Spdg. 180 ft.
A. R. Pardue No. 1 Tribal-171, SE SE SW sec. 7-32n-5w. Drlg. 1,920 ft.
Glacier Prod. Co. No. 3 State, NW NE NW sec. 16-33n-5w. Drlg. 2,340 ft.
Santa Rita O. & G. Co. No. 1 State, NW NW SW sec. 36-34n-6w. Drlg. 730 ft.; Colo. 588 ft.; 10¾-in. 605 ft.
Santa Rita O. & G. Co. No. 3 Lander, C S½ SE sec. 16-35n-6w. Loc.
Texas Co. No. 2 Curran, C NW NE sec. 8-32n-5w. Drlg. 2,480 ft.
Nadeau Bros. No. 5 Farmers State Bank, CEL SE NE sec. 17-33-5w. T.D. 2,820 ft.; fsg.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. Drlg. 1,550 ft.

Petroleum County

Sha-Wa Pet. Corp. No. 1 Austed, SW NW SE sec. 22-13n-28e. Drlg. 400 ft.
O. B. Canfield No. 2 Govt., SE NE NE sec. 21-17n-24e. Drlg. 779 ft.

Pondera County

Jones-Chambers No. 1 Erickson, SW SE SW sec. 3-27n-4w. Drlg. 2,000 ft.; 7-in. 1,850 ft.

Stillwater County

Indian Terr. Ill. Oil Co. No. 2 Hepp, NW NW NW sec. 25-1n-21e. Drlg. L. 5,391 ft.; contr. Rocky Mt. Drlg. Co. completed at 5,250 ft.

Teton County

California Co. No. 1 Unit, NE SE SW sec. 26-27n-9w. Bldg. rd. and M.I.M.
Gulf State Oil-Zodiac Oil Co. No. 1 Coffee-Wallenstein, SW SW SW sec. 5-27n-5w. Rng. 10¾-in. at 1,920 ft

Toole County

Big West Oil Co. No. 3 Engle, CSL SW SW sec. 1-35n-3w. Drlg. 1,400 ft.
Lion Oil Prod. Co. No. 4 Haugen, NE SE SE sec. 11-35n-3w. Drlg. 1,060 ft.
C. D. Stock No. 3 Haggerty, SE NW SW sec. 13-35n-2w. Drlg. 1,020 ft.
Kluth et al No. 1 Gunderson, SE SW SW sec. 18-35n-2w. Drlg. 1,350 ft.
W. M. Cassidy No. 1 Phoenix, CNL NW NW sec. 28-35n-4w. Drlg. 420 ft.
Fulton-Commonwealth No. 2 Thompson, NW NE SW sec. 28-35n-3w. Cmtd. 12½-in. at 95 ft.; W.O.C.
General Oils, Ltd., No. 1 State, SW SE SE sec. 36-35n-4w. Drlg. 1,845 ft.
A. E. Crumley & Son No. 13 Fryberger, CNL NW SE sec. 24-35n-3w. Drlg. 1,596 ft.; S.O.; Ellis at 1,571-72 ft.
Big West Oil Co. No. 2 Engle, SE SW SW sec. 1-35n-3w. T.D. 1,602 ft.; sd. 1,573-1,602 ft.; shot 70 qts.; no results; shot again 50 qts.
Montana Gas Corp. No. 2 Clark, C SE SW sec. 24-37n-1w. T.D. 2,630 ft.; sd. 2,400-21 ft.; P.B. to Sunburst at 2,103 ft.; pulling 7-in.
Caspen T. Oien No. 8 Engermoen, SW NE SW sec. 11-35n-2w. T.D. 1,630 ft.; acd. 500 gal.
V. F. Dahl No. 1 Kimball, SW SE SE sec. 1-35n-3w. T.D. 1,747 ft.; cont. 1,747 ft.; acd.; no results; S.D.
O. A. Newstad No. 2 Haugen, NW NW NE sec. 11-35n-3w. T.D. 1,848 ft.; acd. again; no results; stdg.
Pfabe & Engleking No. 2 Hurley, NE NE NW sec. 8-34n-2w. T.D. 1,466 ft.; will P.B. 1 ft. and acd.
H. C. Morton No. 8 Morton, C SW-NW sec. 24-34-2w. S.D. 650 ft.
Chas. Grant et al No. 1 Anderson, SE NE NE sec. 26-35n-4w. S.D. 2,109 ft.

(Continued on Page 81)

CASTINGS for severe service!

Look at these examples

1 POWER-CYLINDER LINER
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3 END HOUSING
Large in size; has relatively thin sections. Difficult to make sound and satisfactory with gray iron—but perfect with Meehanite.

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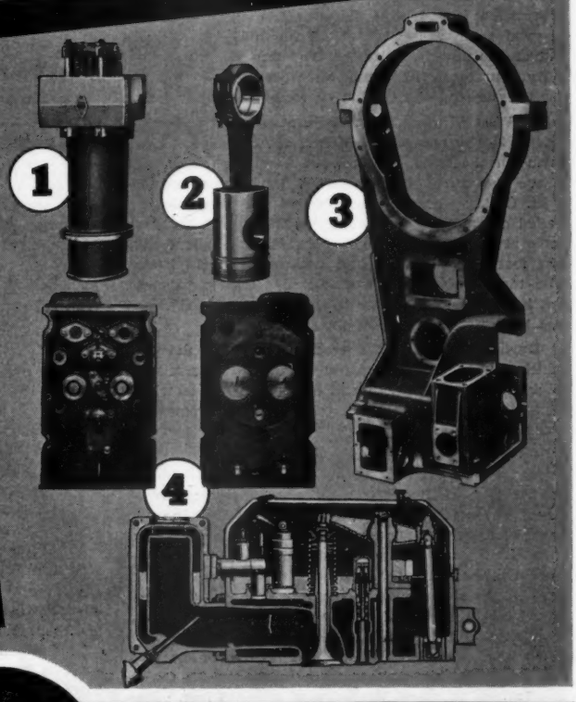

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- A homogeneous structure throughout all sections.
- Exceptional rigidity.
- Good machining qualities.

METAL MEEHANITE

Eastern Field Report

By STAFF CORRESPONDENT

Allegheny County Rotary Test Is Dry at 7,500 Feet

PITTSBURGH, Pa., Aug. 8.—No conclusions were reached in three of the four deep tests which are exciting interest in the lower Eastern fields but the fourth is now definitely dry and will be plugged. In West Deer Township, Allegheny County, the rotary test of South Penn Oil Co. and others on the Fred Backhaus farm on the Kellersburg anticline was drilled to about 7,500 feet and will be plugged and abandoned. It passed through the Oriskany horizon at 6,528-60 feet with a drill stem test showing no gas present and continued into the Salina shales. Several cores showed the absence of proper sand conditions.

In Westmoreland County, Peoples Natural Gas Co., drilling the rotary test on the John S. Marshall farm in Penn Township on the Grapeville anticline, revised its figures for the top of the Oriskany sand which is now placed at 7,647 feet. There was a lime break at 7,649-53 feet and it was deepened to 7,676 feet, or 29 feet below the top of the sand. A drill stem test showed some gas present and the hole was cleaned out and is now being tested. The late reports showed no gas present which may have been due to the water pressure on the Oriskany sand.

In West Virginia, no definite results have been obtained in the test of Joe Rubin on the W. J. Brown farm on the Ohio River about a quarter of a mile above the town of Ravenswood in Ravenswood district. Casing was cemented in and set. The hole was bailed out and the cement broken through with small tools at which time it again was showing about 180,000 feet of gas which had rocked up fairly heavy. The tools were again working in the hole to clean out before drilling deeper in the Oriskany sand which has been penetrated only about 6 inches.

During the week 26 operations were completed of which 4 were dry, 13 gas wells, and 9 producers with an initial daily production of 365 bbls. most of which was in Southeast Ohio where there were some fair wells.

SOUTHEAST OHIO

The best producer in Southeast Ohio was No. 5 Levy A. Stone completed by Kundtz-Hulse, Inc., in the southeast quarter of section 10, Jackson Township, Knox County. It was drilled in the Clinton sand, total depth 3,176 feet, and produced 100 bbls. the first day. In the same quarter section, Pure Oil Co. completed No. 4 Donna M. Miller in this formation at a total depth of 3,125 feet, gauging 2,000,000 feet.

In Athens County, Gibson and others completed a test on the Myrtle Swartz farm in section 31, Carthage Township, in the Maxton sand at 1,038 feet, gauging 125,000 feet. In the northwest quarter of section 21, Dover Township, Kachelmacher Estate completed No. 2 New York Coal Co. in the Berea sand at 986 feet, gauging 184,000 feet.

In Coshocton County, Preston Oil Co. completed No. 3 John J. Wilson in the northwest quarter of section 14, Perry Township, in the Clinton sand at 3,227 feet. It produced 40 bbls. the first day after shot.

In Cuyahoga County, H. B. Zahnizer completed a test on the Grant Straight farm, Lot 43, Mayfield Township, in the Newburg sand at a depth of 2,810 feet, gauging 750,000 feet.

In Knox County, Ohio Fuel Gas Co. drilled a test on the A. L. Banbury farm in the northeast quarter of section 25, Jefferson Township, to 2,975 feet, through the Clinton sand and dry.

In Licking County, Emerald Petroleum Co. and others completed No. 4 Earl M. Rine in the southwest quarter of section 12, Fallsbury Township, in the Clinton sand at 3,046 feet. It produced 45 bbls. the first day after shot.

In Medina County, Preston Oil Co. completed another fair shallow producer on the Bertha B. and J. J. Parent farm, Tract 16, Chatham Township. It produced 65 bbls. the first day without shot from the Berea grit, total depth 400 feet.

In Noble County, Thurman L. and C. W. Rich completed a test on the John Rich farm in the northeast quarter of section 31, Seneca Township, in the Berea grit at 1,463 feet, gauging 20,000 feet a day. It is 2 miles south of the old Chaseville pool in the same township.

In Trumbull County, Norwood P. Johnston and others cased the test on the G. M. Porter farm west of the Mecca crossroads in Mecca Township with 5-inch to 3,868 feet, bailed out the water and deepened the hole to 3,965 feet and shut down.

SOUTHWEST PENNSYLVANIA

One producer, one gas well, and two dry holes were reported in Southwest Pennsylvania. In Allegheny County, J. S. Wally completed a test on the Anna H. Brown farm in Shaler Township, in the Thirty Foot sand at 1,704 feet, gauging 1,000,000 feet.

In Patton Township, Allegheny County, T. W. Phillips Gas & Oil Co. drilled a second test on the Grimm Coal Co. to 4,300 feet through the Bradford sand and it was dry.

In Amwell Township, Washington County, F. K. Fawcett and others completed deepening and reconditioning No. 1 L. Bronder at 3,102 feet, the Fifth sand, and it started off at 75 bbls. a day.

In Beaver County, George Freshwater and J. C. Reed are drilling on the Walter S. Laughlin farm in Green Township, at 1,000 feet. In Hanover Township, Scott and Wetzel have a test on the Harvey Boyd farm at 750 feet.

In Washington County, Harry Williams and others are setting a machine on the Dean Swart farm in Amwell Township. In Fallowfield Township, Naoma Oil & Gas Co. started drilling on the James M. Williams farm.

In South Strabane Township, Penn Ohio Oil & Gas Co. is drilling at 2,180 feet on the W. E. Davis farm. In Morris Township, Union Gasoline & Oil Corp. is drilling at 200 feet in No. 816 Laura Craft.

In Plum Township, Allegheny County, Hope Construction & Refining Co. is deepening No. 4 Adam Elicker and have reached 2,000 feet. In Connoquenessing Township, Butler County, Reiber and McKnight are drilling at 1,500 feet on the Reiber farm.

In Indiana County, Equitable Gas Co. has a location on the J. M. Henry farm in South Mahoning Township with a surface elevation of 1,408 feet.

Greene County

In Center Township, Greene County, Charles Mong and others reached 2,465 feet in No. 3 Jesse L. Metz. In Aleppo Township, Burleigh Wright is rigging up on the William McVey farm. In Richhill Township, Smith McCracken is drilling past tools at 3,085 feet on the Asa Hughes farm. In Morris Township, R. E. Hoskinson and others reached 815 feet on the C. C. Conklin farm. In Aleppo Township, Cochran and Cochran have reached 1,885 feet in No. 4 John Strope.

Equitable Gas Co. is down 625 feet on the John Huffman farm in Washington Township. In Greene Township, this company is deepening the W. E. Blaker at 2,151 feet; in Franklin Township, it is at 2,890 feet on the W. L. Jacobs farm; at 2,630 feet on the Thorp farm; and in Center Township, is cleaning out to deepen on the G. M. Kuhn farm.

Deep Tests

On Chestnut Ridge, in Fayette County, Greensboro Gas Co. put on a new 9,000-foot cable and started deepening on the J. R. Thompson farm in Wharton Township, which had been standing at 7,889 feet. The present depth is 7,957 feet with top of the Oriskany sand definitely placed at 7,556 feet. So far there has been no gas or any edgewater. This test is now 1,030½ feet deeper than the original test on this structure, the No. 1 Summit Hotel (Heyn).

In North Union Township, Fayette County, the test of Wasson & Co. is drilling at 5,300 feet on the J. H. Sorg farm. In Springhill Township, L. J. Houze Convex Glass Co. is drilling at 6,467 feet on the Paul Dunham farm, approaching an interesting depth of definite markers to the Lower Devonian which should be reached in the next few hundred feet.

In Beaver County, John T. Galey and others were halted on the Eliza Allen heirs in South Beaver Township, with a severe gas blowout at 4,400 feet. The line was cut, tools drilled by and recovered in record time and it is again drilling below 4,400 feet with several small gas pockets encountered. The Onondaga should be reached within the week.

WEST VIRGINIA

Several producers were completed in West Virginia. In Clay County, Boggess Drilling Co. completed a test on the Thomas and Thomas lease in Henry district with Big Injun at 1,872-1,925 feet, and a showing of 30 bbls. along with 435,000 feet of gas.

In Monongalia County, Philadelphia Oil Co. completed No. 1 Marion Tennant heirs, in Clay district, in the Fourth sand at 3,256 feet, good for 3 bbls. a day.

In Ritchie County, Flanagan, Leeton and others completed a test on the W. J. Shields farm in Grant district in the Squaw sand at 1,875 feet, showing 6 bbls. a day.

In Wirt County, W. C. Patterson completed a test on the A. Pierson farm in Clay district in the Cow Run sand at 520 feet, a half-barrel pumper.

Gas Wells

In Boone County, Hope Natural Gas Co. completed the test on the Lester C. Green farm in Washington district at 1,915 feet. It will be abandoned. In Sherman district, Columbian Carbon Co. deepened No. 3 R. H. Wood and others to 3,949 feet, Brown shale, gauging 56,720 feet. It will be deepened.

In Calhoun County, Verl Stewart and others completed a test on the G. B. Francis farm in Sherman district, as a gas well at 2,168 feet.

In Clay County, Yoak, Preston and others completed a test on the V. J. Croikshanks farm in Otter district at 1,975 feet, with 20,000 feet of gas.

Oriskany Gas Field

Two good gas wells were completed in the Oriskany pools in Kanawha County and there were several locations. In Poca district, United Fuel Gas Co. completed No. 4793 W. A. Fisher and others at 5,193 feet with the Oriskany topped at 5,177 feet and a final gauge of 16,813,000 feet.

United Carbon Co. completed the test on the Louisa E. Long farm in Poca district at 4,990 feet. The Corniferous lime was at 4,857 feet; Oriskany sand 4,970 feet; and a final gauge of 8,320,000 feet a day with a rock pressure of 1,845 pounds in 24 hours.

In this district, Columbian Carbon Co. has a gas well on the Johnson and Gibson tract with the tools at 4,864 feet. The gauge is 1,009,000 feet and not through the pay.

A short record of Cunningham Gas Co. test on the E. F. Cunningham farm in Ripley district, Jackson County, on the southern tip of the county, in the Kanawha gas field, gives the Corniferous lime at 4,-

821-4,928 feet; Oriskany 4,928-50 feet with 3,500,000 feet of gas at 4,929-34 feet.

In Poca district, South Penn Oil Co. has made a location for No. 6 T. H. Newhouse with an elevation of 921.10 feet. This company is drilling at 4,675 feet Newhouse-Beanne line well and 4,540 feet in the Virginia E. Monk test.

In Poca district, United Fuel Gas Co. has a location on the J. A. Hines and others; one on the S. E. Gibson and others; and one on the W. J. Glass farm. Lima Gas Co. has a location on the A. T. Mairs heirs, elevation 910.63 feet; Spartan Gas Co. a location on the Lock and A. E. Fisher farm, elevation 795.7 feet; Hayes Oil & Gas Co. a test on the F. M. Ray farm, elevation 805 feet. In Elk district, Columbian Carbon Co. has a location for a second test on the Ida Hughart farm.

In Poca district, Spartan Gas Co. topped the Corniferous lime at 4,814 feet on the R. B. and Fred Baldwin farm. Geary-Morley Gas Co. is down 3,850 feet in No. 1 Diana J. Milam heirs; Lima Gas Co. at 440 feet in the A. T. Mairs test; Mullins Gas Co. at 2,375 feet in the J. C. Fisher and others test; 2,130 feet in the W. H. Odell test; 1,450 feet in the Earl K. Johnson test; 735 feet in the Manfred Fisher and others test. Columbian Carbon Co. is drilling at 1,993 feet in the L. P. Rollins test; 2,271 feet in the Lena Castro test; 1,525 feet in the W. H. Odell and others test. West Virginia Gas Co. has reached 2,900 feet in the Spencer-Canterbury test and 1,630 feet in the Fisher-Newhouse test.

In this district, United Fuel Gas Co. has nine wells drilling. No. 4787 W. J. Glass is at 2,710 feet; No. 4788 I. W. Cavender at 4,354 feet; No. 4791 W. J. Glass at 3,800 feet; No. 4797 T. F. Good and others at 1,705 feet; No. 4799 O. V. Milam and others at 1,658 feet; No. 4800 W. H. Odell and others at 1,445 feet; No. 4801 Floto Johnson at 1,770 feet; No. 4802 J. W. Harding and others at 598 feet; No. 4803 Lillie Dawson at 1,907 feet. United Carbon Co. is down 2,510 feet in the I. C. Miller test.

In Elk district, Columbian Carbon Co. is drilling at 1,607 feet in the W. B. Fogarty test; 3,522 feet in No. 12 C. W. Vickers; 1,070 feet in the Bratton Hanna test. United Carbon Co. is building a rig for the Van Canterbury test.

Deep Tests

In Jackson County, United Carbon Co. is drilling at 4,200 feet on the Elizabeth Ward Perkins farm in Washington district. In Pleasants County, Columbian Carbon Co. reached 4,100 feet on the Giles Hammat heirs' farm in Grant district when the 8-inch casing collapsed with a string of tools in it. They are now pulling casing.

New Work

In Braxton County, McCall Drilling Co. has a location for No. 7 H. G. Clouser in Otter district, elevation 1,161 feet. In Calhoun County, this company has a location for R. W. Bennett in Sherman district, elevation 908 feet, and D. W. Wilson test, same district, elevation 891 feet. In Gilmer County, it will

(Continued on Page 97)

Rocky Mountain Runs

(Continued from Page 79)

Yellowstone County

Broadview Dome Oil Co. No. 1 Stallinberger, NE NE SW sec. 18-3n-23e. S.D. 4,565 ft.; to resume.
Riverton Oil Co. No. 1 Fox, CEL NW NE sec. 14-2n-23e. T.D. 1,795 ft. (C.D.); fsg.

UTAH

Grand County

Cane Creek Oil Co. No. 1 Govt., NW SW sec. 31-26n-21e. T.D. 1,600 ft.; rng. 10-in. to 1,397 ft.
Crescent Eagle Oil Co. No. 1 Brendel, SW SE sec. 4-22s-19e. Drlg. 3,948 ft.

Summit County

Mountain Fuel Supply Co. No. 1 Wilde, NE SE SE sec. 9-2n-5e. Drlg. 3,775 ft.
Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. T.D. 2,876 ft.; sdtrkg.

NEBRASKA

Keith County

Twentieth Century Oil Co. No. 1 Stuken, C NW NW sec. 21-14n-37w. Drlg. sh. 1,200 ft.

Scotts Bluff County

Houston Pet. Co. No. 1 Judd, NE NE NE sec. 15-22n-57w. Spdg. C.T. to 2,200 ft.; will then convert to rotary.

Sioux County

Felmont Oil Corp. No. 1, C SW NE sec. 21-27n-55w Drlg. 1,492 ft.
Union Oil Co. of Calif. No. 1 Agate-15, NW SE SE sec. 15-28-55w. T.D. 6,890 ft.; fsg. parted 10-in.; dropped 2,400 ft.

NORTH DAKOTA

Williams County

California Co. No. 1 Kamp, C NW NE sec. 3-154n-96w. Drlg. 9,909 ft.; may go to Ordovician at 12,000 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co. No. 2 North Albuquerque, NE SE NW sec. 10-11n-4e. T.D. 3,750 ft.; C.O. to run 6⅝-in.

McKinley County

New State Oil Co. No. 1, NE NE NW sec. 1-17n-9w. M.I.M.
Claude Walker No. 7 fee, SW SW SE sec. 20-20n-9w. Drlg. 250 ft.

Rio Arriba County

Continental Oil Co.-L. M. Hughes No. 1 Esquibel, unsurveyed; approx. sec. 1-28n-4e. Drlg. blk sh. 540 ft.; 12¼-in. at 239 ft.
Oil City Pet. Co. No. 1 Azotea, SW SW NE sec. 11-31n-2e. Spdg.

San Juan County

Goodrun and Vincent No. 2 Goodrun, SE SW NE section 23-29n-11w, Aztec-Bloomfield district, was completed at 705 feet for 25 bbls. per day of 71-gravity oil.

Continental Oil Co. No. 77 Rattlesnake, NE NE NE section 2-29n-19w, Rattlesnake field, was completed at 903 feet for 31 bbls. the first 19 hours, from second Dakota sand.

Continental Oil Co. No. 78 Rattlesnake, NW SW SW sec. 1-29n-19w. Drlg. sh. 265 ft. (first report).
Al Greer No. 2 fee, SW SE SW sec. 10-30-11w. S.D. 660 ft. for 10-in.
Anna Oil Corp. No. 6 Govt., SW NE NE sec. 33-30n-11w. Drlg. 1,900 ft.

Socorro County

Central New Mexico Oil Co. No. 1 Belen Gr., SE NW sec. 16-3n-1e. T.D. 2,965 ft. (C.D.); C.O.

Torrance County

Woolston Bros. No. 1 Garland, NE SE NE sec. 32-7n-7e. R.U.
Estancia Valley Carbon-Dioxide Dev. Co. No. 1 Crawford, SE NE NE sec. 32-7n-7e. Drlg. 950 ft.

Valencia County

Old Spanish Grants, Inc., No. 1 San Clemente, C SE SW sec. 23-7n-1e. R.U.R.
C. A. Grober et al No. 1 Fuqua, NE NE sec. 19-5n-3e. T.D. 900 ft.; R.U.R.

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Michigan Field Report

By O. C. PRESSPRICH

Exploration of Wildcat Areas Is Stimulated by Discoveries

SAGINAW, Mich., Aug. 8.—Plans for future exploration of wildcat territory in Michigan oil fields, to which interest was attracted by recent important discoveries, overshadowed developments during the past week of little new production. Only seven new producers were established, with nearly as may dry tests.

Two Michigan counties—Allegan and Clare—held operators' attention. Allegan, already proved as a productive oil source in at least three townships—Dorr, Monterey and Salem—looked to Overisel Township for further developments as drilling activity at 10 locations headed toward pay strata to confirm the 800-bbl. wildcat tapped in Overisel less than two weeks ago. Most of the tests are expected to be completed within a week or 10 days.

Clare County, in central Michigan, which recently developed its first commercial oil producer, a Freeman Township wildcat, was expecting further productive tests in Freeman, Redding and Lincoln townships. All three townships appeared due for development activity.

Despite an oil test failure this week at Gulf Refining Co. No. 1 Ann Arbor Railroad, C W half NW NW section 21-18n-5w, Lincoln Township, Clare County, operators reported formation data justified future testing. The Gulf well encountered water in the Monroe formation, at 4,026 feet, although a show of oil and gas was reported in the Monroe, but insufficient to warrant commercial development. The Gulf test is the same that encountered a 21,000,000-foot gas flow in the Michigan stray sands, which was cemented off and the test continued for oil. Two other oil shows were reported en route to the Monroe, but they were not considered commercially important in view of the desire to test deep formations.

Overisel Field

The Allegan County Overisel field was the "hot" spot of the week in activity. Operators expected at least two tests to be drilled in within a week in an effort to confirm the field discovered at William J. Cline No. 1 Aldrich, NE SW SE section 36-4n-10w, an 800-bbl., natural, well. Ten or more tests were reported drilling in Overisel and Heath townships this week. The Heath Township tests are intended to define a possible southern extension of the Overisel pool, tapped in the extreme southeast corner of the township.

A failure was recorded this week in Heath Township at Claude Sutherland No. 1 Klein, NW NW SW section 10-3n-14w, but this was not considered a conclusive indication of unproductive tests further north and northeast toward the Overisel wildcat. The Sutherland dry test is about 2 miles south and 2 miles west of the Overisel wildcat.

Salem Township, which borders Overisel on the east, and Monterey Township, directly east of Heath, were expecting a development flurry on their borders nearest the wildcat strike.

Allegan County

Salem Township added two producers during the week in the eastern and central areas of the proved pool. Refineries Petroleum Co. No. 2 Handy, NW NE SW section 21-4n-13w, reported a 150-bbl. producer after acid, and Alma G. Allan No. 1 Howard, NE NW NE section 24, developed a 10-bbl. natural producer scheduled for treatment. None of the western Salem development has closely approached the Overisel boundary.

Dorr Township.—One producer and a dry hole summarized completions of the week. Columbia Oil & Gas Co. No. 6 Ritcher, NW SW SE section 30-4n-12w, added a 200-bbl. well after acid, and Fleming & Dodd No. 1 Niemczyk, NW NW NE section 31, was a dry test.

Monterey Township.—Two completions, both failures, featured drilling this week. They were Joseph P. Hughes Trust No. 1 Cram, SW SE SW section 1-3n-13w, and Rex Oil & Gas Co. No. 1 Miller, NW NW NE section 16.

Gladwin County

Productive Buckeye and Bentley townships this week each added a producer, indicated as semicompleted last week. They had added significance to depositors of two closed banks as both were on land leased by the banks. Production of the wells may aid materially in future bank payoffs. Kales-Graves Co. No. 1 State Bank of Vassar, NW NE SE section 27-18n-1w, second producer on the same lease, gauged 60 bbls. daily after acid. The Bank of Saginaw shares in the Bentley producer completed at Robert King No. 1 Bank of Saginaw, SE SE SE section 20-17n-2e, a 75-bbl. daily producer after acid.

Isabella County

Broomfield Township.—Pure Oil Co. held production honors of the week with a boundary marker test at its No. 3 Skarrett, SE SE NE section 5-14n-6w, a 400-bbl. acidized producer. The test, a half mile southwest of the Sherman-Broomfield pool, was said by operators to have established a boundary marker on the edge of the Broomfield pool. When drilled in, the test made a fair natural show, but surprised operators with its prolific flow of 430 bbls. during the first 24 hours after treatment.

Coldwater Township.—A projected oil test in this township has stirred considerable oil interest. Put down by Chatham Oil Co. in the SW SW NW section 13-16n-6w, the test is the first in the township. Valuable information on formations is expected as the wildcat location is 8 miles north and 2 miles east of the productive Sherman pool.

Wise Township.—Turner Petroleum Co. No. 1 White, SE NE NW section 28-16n-3w, continued to test the Traverse formation en route to the Dundee for an oil test. A show of oil was logged on top of the Traverse. Drilling continued, however, and the test was reported at below 3,100 feet and still in the Traverse. The test is about 3½ miles east of the Vernon pool. James A. Peirce was drilling ahead on a gas test in the C NW section 6, less than a half mile northwest of the two gas producers in the area, and about 2 miles southeast of Gulf Refining Co. 21,000,000-foot gasser in Grant Township, which was cemented off and failed as an oil test this week.

Midland County

Edenville Township.—One producer was added during the week in proved territory but exploration continued on inside locations, with operators reluctant to attempt border extensions in view of dry tests almost surrounding sections 26 and 27 development. The producer of the week was Turner Petroleum Co. No. 2 Verity, SE SW NW section 26, which gauged 100 bbls. daily, natural. Acid treatment was scheduled. Nine projects, in all, are active in the Edenville area proper, with Sun Oil Co. No. 1-D State-Edenville, SE NE SE section 28, the nearest to the pay zone. This test is looked to for confirmation of further western extension of the pool from the discovery well.

Jerome Township.—Sun Oil Co. deep test aimed at probing the Sylvania formation was reported drilling ahead of 4,821 feet after being shut down last week. The test is the No. 1-B State-Jerome, SW SW NE section 9-13n-2w. It is progressingly slowly with a hole full of water. Before the shutdown the test logged at 4,693 feet a show of oil at first believed to be from the Sylvania but later determined to be from the Detroit River series (Monroe). Operators hope to reach the Sylvania for testing within a week.

Clare County

Grant Township.—An attempt to establish a boundary marker well for the Clare gas pool failed this week when American Production Co. No. 1 Schaeffer, SW NE SW section 26-17n-4w, drilled into Marshall water at 1,345 feet. The gas test was intended to be a pool extension to the northeast. A small gasser is about a half mile southwest of the failure, showing formations diminishing.

Gratiot County

Pine River Township.—Deep testing of Gratiot County formations appeared the goal at Michigan Chemical Corp. No. 9 fee, SE SW NW section 24-12n-3w, only test in Gratiot County. Drillers reported a depth of 3,361 feet this week, and expected to test the Dundee limestone within 10 feet. If no pay horizon is encountered, the test will be continued deeper for data.

Van Buren County

Antwerp Township.—Daily Crude Oil Co. No. 1 Wise, NE NW SE section 26-3s-13w, only active wildcat in Van Buren, will be plugged and abandoned as a dry test.

Drilling Permits

State conservation department drilling permits for the week ending August 3 numbered 21, Allegan County dominating undertakings, with nine permits as the result of a recent wildcat strike in Overisel Township. The year's total permits is 463, in comparison to 613 for the same period last year.

Five Allegan County townships, including Overisel, Heath, Monterey, Salem and Dorr, felt the direct effect of the Overisel strike. Clare County was issued two permits for Redding Township, influenced by another recent wildcat strike in Freeman Township, Clare County. Other permits issued included three for Isabella County, two for Gladwin County, and one each for Osceola, Kent, Midland, St. Clair and Van Buren counties.

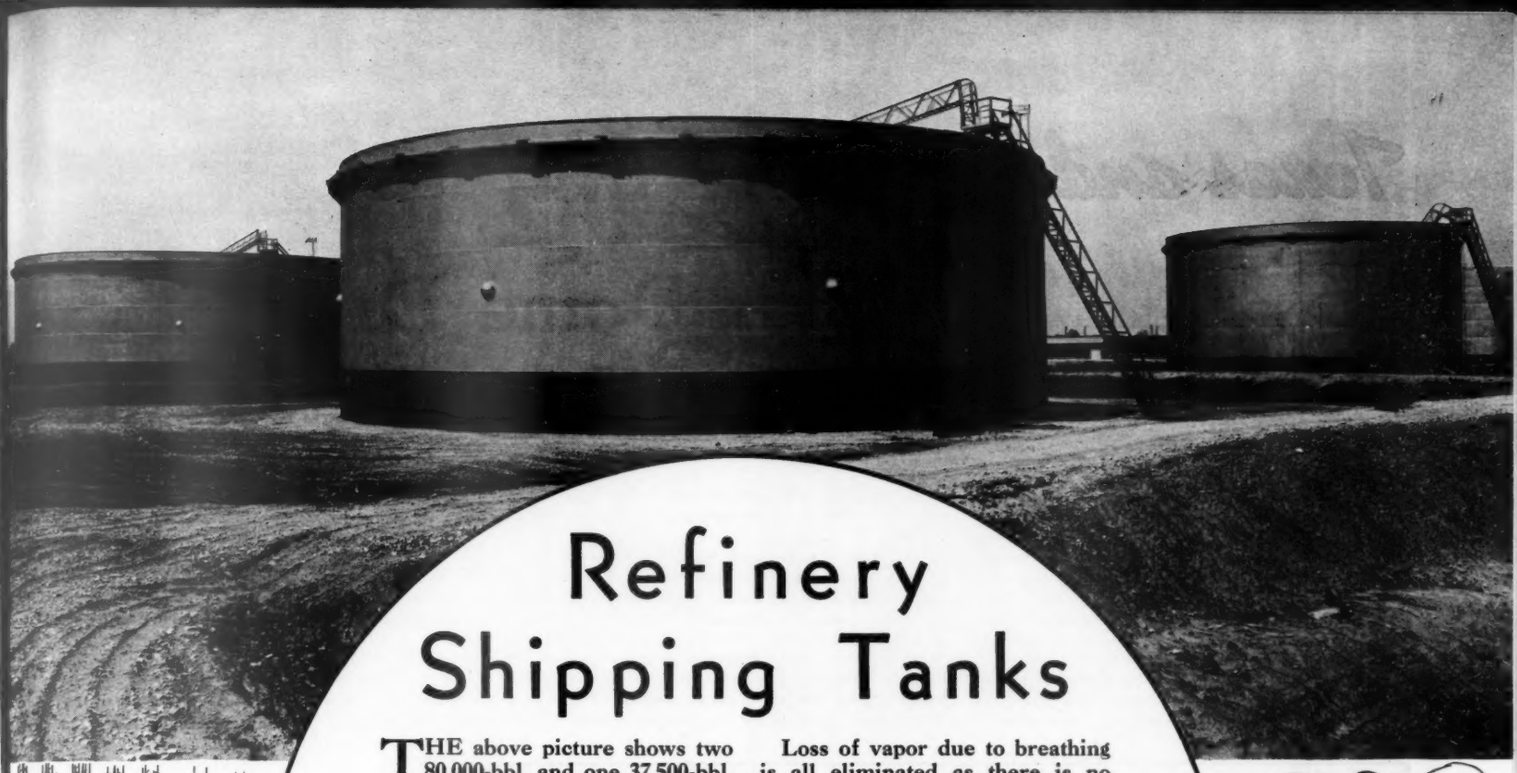
La.-Ark. Fields

(Continued from Page 74)

post cored porous lime at 5,380-84, 5,388-89 and 5,390-99 feet and 5½-inch casing was set at 5,378 feet. On an initial gauge this week it made 52 bbls. hourly through open tubing. Its 24-hour gauge showed 330 bbls. on a three-fourths inch choke. The well was acidized with 5,000 gallons. Total depth is 5,406 feet. Three other good producers were completed in the Lisbon field during the week.

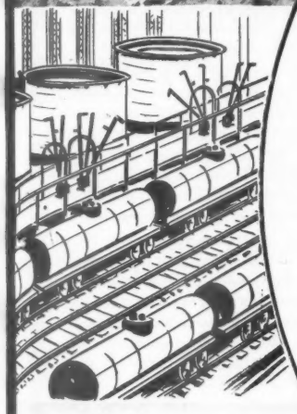
In Red River Parish, a wildcat, J. F. Lent No. 1 Chicago Coal & Land Co., in the SE cor. section 17-13-11, in the Bull Bayou area, was completed for a small shallow gasser during the week. The test made an estimated 1,000,000 feet daily although not gauged, and rock pressure showed 110 pounds. The gas sand was encountered at 850-75 feet and the well is bottomed at 875 feet with 8⅝-inch casing set at 840 feet.

In the Blue Lake area southwest of Zwolle in Sabine Parish, Sutton Zwolle Oil Co. No. 1 Bowman Hicks, SE SW section 14-7-14, was completed through drilling string at a total depth of 2,209 feet during the early part of the week. The test last week blew out while drilling at 2,207 feet. It was successfully shut in, and completed for an initial gauge of 266 bbls. daily through a half-inch choke on casing.



Refinery Shipping Tanks

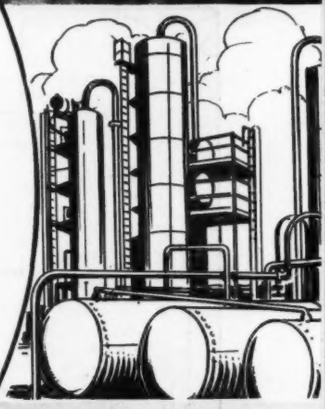
THE above picture shows two 80,000-bbl. and one 37,500-bbl. Wiggins Pontoon Roof tanks. Below is a close-up view showing part of one of the pontoon decks. These tanks, together with a third 80,000-bbl. unit, are used as gasoline shipping tanks at the Socony Vacuum plant in Trenton, Mich.



Wiggins Pontoon Roofs are used extensively on shipping tanks, and other tanks which are filled and emptied frequently. They ride directly on the surface of the liquid, preventing evaporation loss which would otherwise take place due to pumping.

Loss of vapor due to breathing is all eliminated as there is no space above the oil for an air-vapor mixture to accumulate. The absence of a vapor space also reduces the fire hazard as outlined in a report issued by the Underwriters' Laboratories of Chicago.

For standing storage tanks, Wiggins Breather Roofs and Wiggins Balloon Roofs are recommended. We will be glad to send you complete information on these as well as pressure storage tanks and refining equipment. Please address our nearest office for information or quotations.



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WIGGINS PONTOON ROOFS

Texas and Louisiana Gulf

By
NEIL WILLIAMS

Another Dome Discovered in Caillou Bay, Terrebonne

HOUSTON, Tex., Aug. 8.—The opening of commercial production on the Hester salt dome, St. James Parish, and the discovery of another dome in Caillou Bay, Terrebonne Parish, which has shown evidence of production, continued to keep the Coastal Louisiana district in the limelight of Gulf Coast activities. Three more important wildcats were started in Coastal Louisiana while along the Texas Coast a shallow sand was opened at the Cedar Point field in Galveston Bay.

Continental Oil Co. No. 1 Realty Operators opened the first oil field in St. James Parish and added the Hester dome to the list of producing fields when it flowed 125 bbls. of 46.6-gravity oil per day through a 21/64-inch choke. When this well was brought in early in the week from perforated casing at 6,358-64 feet, it showed for a distillate producer.

The discovery well is located in section 17-12s-5e, and is the third test to be drilled on the structure that was found last year by Shell Petroleum Corp. which drilled two wells, encountering salt in one test at 7,492 feet. The acreage on which the discovery well was drilled was farmed out to Continental Oil Co. which agreed to drill three wells. A second well, No. 1 Colonial Sugars, section 46-12s-5e, is coring below 8,215 feet and the rig from the discovery well is expected to be moved for a third test.

The Caillou Bay prospect, Terrebonne Parish, was proven a shallow piercement type of salt dome by Texas Co. No. 1 State, about 14,400 feet northwest of the United States Coast Guard Station on Raccoon Point, Township 23s-14e. Rock salt was topped at 4,922 feet and cored to a total depth of 4,924 feet. Casing is expected to be cemented for a production test of the Miocene sand which carried oil showings from 3,809-4,395 feet. From 3,809-3,996 feet the section was broken and from 4,390-95 feet the section was solid sand showing oil.

The West Gueydan field, Vermilion Parish, originally discovered three weeks ago as a distillate field, is now classified as an oil field as a production test showed the well capable of producing approximately 400 bbls. of 47-gravity oil. The discovery well, Magnolia Petroleum Co. No. 1 J. B. Ferguson, 6 miles west of the Gueydan field, was completed through perforated casing at 7,140-50 feet for an initial production of 70 bbls. of 60-gravity distillate per day, flowing through a quarter-inch choke. The company has purchased a seven-acre tract on the east side of the Mermentau River where loading docks and storage facilities will be constructed. A 5½-mile 4-inch pipe line is being laid to the site which indicates an active drilling campaign. Magnolia Petroleum Co. has spudded No. 1 Reese, southeast of the discovery well, while Pure Oil Co. has staked location for No. 1 Vermilion Irrigation Co., northeast of the producer in section 41.

Location for a fourth wildcat to be drilled on the North Starks prospect, Calcasieu Parish, was made by the Sun Oil Co. for No. 2 Lutcher-Moore Lumber Co., section 12-8s-13w, which places the test about a mile southeast of the company's first well, and south of two dry holes that were drilled by Lee Davenport and others. Favorable showings were logged in all three dry holes.

Other important wildcat locations were announced for Acadia and St. Landry parishes. North of the Tepetate field, Acadia Parish, Atlantic Refining Co. will move in material for No. 1 C. R. Klumpp, section 12-7s-2w. The test is located on what is known as the Basile prospect, which during the past few months has been rechecked by geophysical instruments.

In St. Landry Parish and situated north of Washington, Herton Oil Co. and others staked location for No. 1 Thistlephlite Lumber Co., section 60-4s-4e. Roadway to the location is being constructed and material will be moved in the first of the week. It is reported that a deep test is proposed for the Reddel prospect in Evangeline Parish by Danciger Oil & Refining Co.

Fohs Oil Co. No. 1 State, a deep test in Terrebonne Parish, has been plugged back to 8,746 feet after the well showed for a tremendous dry gas well through perforated casing at 9,000-10 feet. The hole was originally drilled to a total depth of 13,409 feet, and several attempts have been made to complete the well below 10,000 feet, but the results were not favorable.

The second producer for the South Baton Rouge field, East Baton Rouge Parish, was completed by William Helis No. 2 Duplantier, section 65-7s-1w. Based on a 23-hour gauge, flowing through a quarter-inch choke, the well flowed 196 bbls. of pipe line oil per day with tubing pressure 2,175 pounds and casing pressure 2,150 pounds. The completion was made from a screen setting at 6,460-91 feet, the total depth.

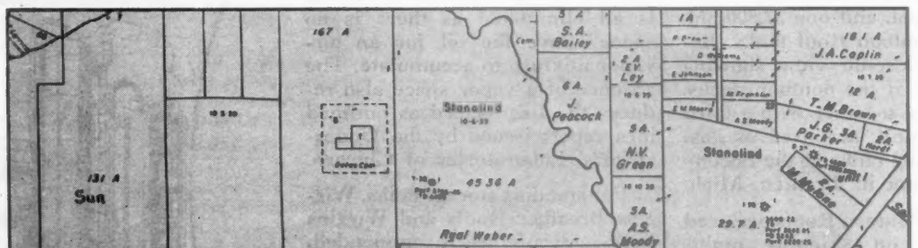
In the South Roanoke field, Jefferson Davis Parish, Continental Oil Co. No. 1 Joe Sturdivant, section 36-10s-4w, is drilling in shale below 10,729 feet. An electrical survey from 9,824-10,569 feet showed 11½ ohms resistance and 120 millivolts porosity at 9,858-88 feet. Union Sulphur Co. was attempting to complete No. 1 T. R. S. Farms, bottomed at 9,736 feet with 7-inch casing cemented at 8,888 feet.

The opening of Miocene production in the Cedar Point field, offshore from Chambers County in Galveston Bay, provided the most interesting news along the Texas Coast. Standard Oil Co. of Texas and Salt Dome Oil Corp. No. 1 State, in Tract 94, a northoffset to Frio production, topped sand showing oil in the Miocene section at 4,414 feet, and cored to a total depth of 4,430 feet where a 10-minute drill stem test showed 85 pounds of working pressure and the well flowed pipe line oil of 31 gravity for 1 hour and 30 minutes. Casing is being cemented for completion. This well was drilled to a total depth of 6,450 feet where it found salt water in the regular Frio sand. On the strength of an electrical survey which showed a possible sand in the 4,400-foot zone, the hole was plugged back, sidetracked and redrilled to its present depth. Since a known fault on the north side of the field was established a few weeks ago, it is possible that this well has cut the fault above the Frio zone. Humble Oil & Refining Co. in developing its holdings, encountered a showing in the Miocene sand in one well, but no attempt was made to complete in the section.

J. R. Turnbull and others No. 1 Casey, 1,200 feet west of Cotton Lake production, Chambers County, tested salt water and the hole has been plugged back for another test. Sand showing oil was cored last week at 6,529-39 feet, the total depth, and after plug had been drilled, a two-minute drill stem test at 6,525-39 feet tested no pressure and recovered 25 thribbles of mud and salt water. The hole was plugged back to 6,500 feet and the casing perforated at 6,460-92 feet. The well flowed pipe line oil for four hours and then started making salt water. Gillispe and others No. 1 Lawrence, 1,252 feet due west of Humble Oil & Refinig Co. No. 1-B Lawrence, is bottomed 6,531 feet with 5½-inch casing cemented at 6,520 feet. Shale with streaks of sand with an oil and gas odor was cored at 6,417-80 feet, and sand with an oil odor and salty taste at 6,523-31 feet.

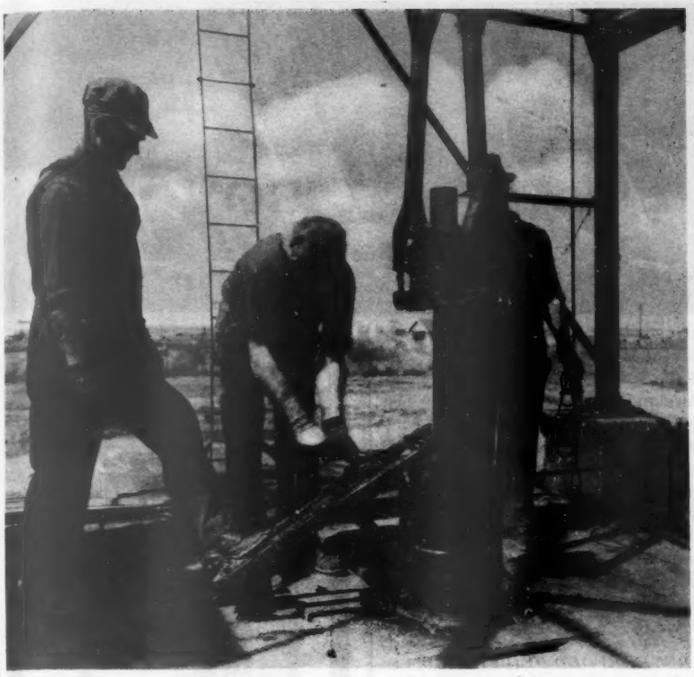
Two important extension tests are being started in the Clinton field, Harris County. Sun Oil Co. is moving in material for No. 1 Oates, about 2,100 feet west of

(Continued on Page 98)



W. W. Zingery, Maps, Houston

Plat of the Clinton field, Harris County, showing development of 3,500-foot Miocene sand



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Clyde Smith, fourth from left, second picture, in the employ of a major oil company at Edmond, Oklahoma, tells us that the patented "Guide Head" on the Guiberson Tubing Spider is a wonderful improvement in spider design. This exclusive patented device is so adjusted that it holds the tubing in exact center of the spider's bore, at all times, whether running or pulling—causing the spider slips to seat instantly and accurately around the tubing without handling or forcing by the men. The men's hands need not be placed near the slips.

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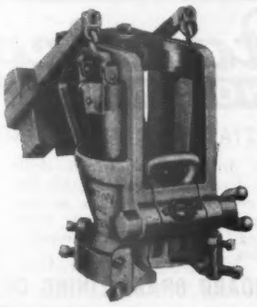
These features make this spider speedier and easier to operate than any former design. The lever eliminates back fatigue because operator can stand erect, lowering or raising slips with his foot. Maximum safety is assured, because operator stands back from elevator and pipe.



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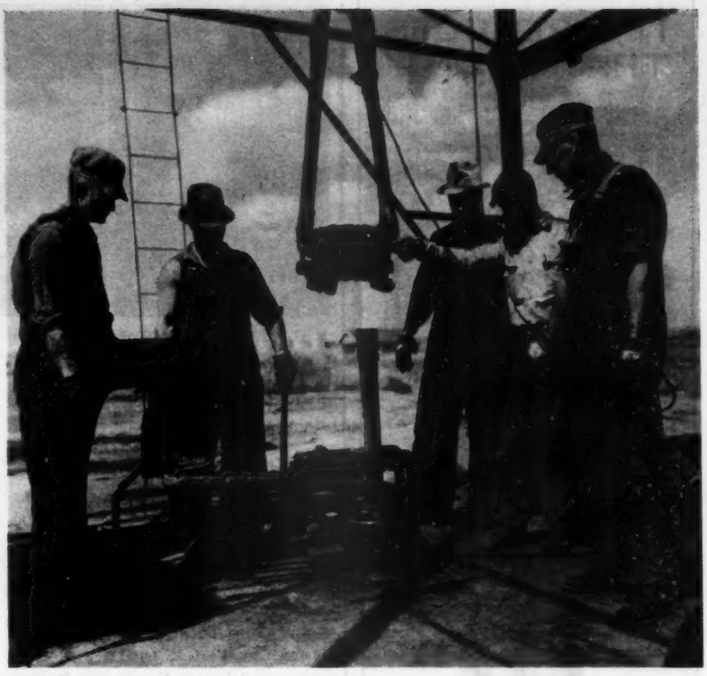

Removing Elevator. Tubing is *safe* in this spider's grip. Men, left to right, are: T. W. Wade, John Spence, Jack Sims, Clyde Smith, (Toolpusher), and E. I. Caruthers.

Making Up. No back-up wrench is being used, as spider's grip is plenty powerful.

Running In. Slips are retracted by the lever. Men stand back at safe distance.

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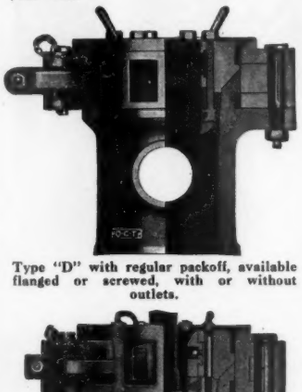

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Among the Drilling

ALLEN & MORRIS of San Antonio provided the Lower Gulf Coast district with a new field with the completion of I. J. Allen No. 2 Rooke, located in the Woodsboro area, Refugio County. The well is flowing an unestimated amount of distillate after completing through perforated casing at 5,360-70½ feet. The rig is being moved south for the same operators' No. 1 Rooke, which will be deepened. In the same county and located along the Mission River in Refugio County, a second well has been started for the W. R. R. Oil Co. Other rotaries of Allen & Morris are located in the Luby field for Seaboard Oil Corp.; at the Turkey Creek field for Rutherford Oil Corp.; at Clara Driscoll for the Texas Co. and one in Jim Hogg County which is being used on a wildcat prospect for Humble Oil & Refining Co.

BELL & LOFFLAND, INC., is drilling a test near the center of the San Joaquin Valley on which exceptionally good time is being made. The crews under Ed Smith, drilling foreman, drilled 5,000 feet of hole in one week. One bit made 1,700 feet of hole before being removed.

TRINITY DRILLERS, INC., of San Antonio, spudded an interesting semi-wildcat for Transwestern Oil Co., located on the B. H. Dunlap Survey, about 1½ miles southwest of the East Premont field in Jim Wells County. Other active operations are reported for Eagle Hill Oil Corp. in the Eagle Hill field, Duval County; in Nueces County, for Phillips Petroleum Co. and at the Driscoll field in Duval County for Continental Oil Co.

LOFFLAND BROTHERS, drilling for Standard Oil Co. of Texas and the Salt Dome Oil Corp. in the Cedar Point field in Galveston Bay, have cemented casing in No. 1 State, which has the appearance of opening a shallow sand for the field. For Standard Oil Co. of Texas and located in Duval County, 7-inch casing has been cemented in No. 1 Dolores Garcia at 6,317 feet. This is a wildcat test which is reported to have cored several interesting showings. In Terrebone Parish, Fohs Oil Co. No. 1 State, originally drilled to a total depth of 13,409 feet, tested an unestimated amount of dry gas through perforated casing below 9,000 feet and the hole has been plugged back to 8,746 feet where another test will be made.

SMITH & McDANNALD are moving one of their rotaries to Live Oak County, where a 6,500-foot wildcat, 3½ miles southeast of Van Dia, will be drilled for themselves. A second string of tools was moved to the Eureka field, Harris County, for Tide Water Associated Oil Co., while at the Raceland field, a projected deep test is being started for the same company. In the Port Barre field a well is being completed for the Pan American Production Co. Six other active operations are reported at the Dickinson, Hastings, Charenton and Long Lake fields for Pure Oil Co., Stanolind Oil & Gas Co., Pan American Production Co. and the Tide Water Associated Oil Co.

RUTHERFORD DRILLING CO. has started a second well in the active Fairbanks field for the Skelly Oil Co. and reports two other operations at the West Columbia and Van Vleck fields for Frost and Dunman and Skelly Oil Co.

BELL & LOFFLAND, INC., California drilling contractors, have started work on an Eocene test near the old Lost Hills field. The test is being backed by two companies, California Lands, Inc., and Hilden Oil Co. of Long Beach. The first is owned by Bank of America, while the other company is headed by Neil and Robin Willis, geologists and sons of Bailey Willis, Stanford University earthquake specialist. The combined interests will operate under the name of Desert Oil Co. Other deep tests in this area have encountered hard rock, steep dips, and flowing hot salt water. The drilling firm has therefore chosen heavy machinery, and drilling will be carried on at a rather slow pace.

HEYSER, HEARD & CLARDY have moved a rig to the Clinton field in Harris County where preparations are being made to start an interesting outpost well for the Sun Oil Co. The well is located on the Oates tract about 1,750 feet northwest of the field.

TAFT WELL DRILLING CO. has set 8⅝-inch casing on the test being drilled for Ohio Oil Co. near Willows in Glenn County, California. The test is the most northerly in California. An unsuccessful drill-stem test was made at 5,700 feet. This is considerably lower than the depth at which the first test, which was drilled nearby, encountered high-pressure gas which demolished the rig and formed a large crater. No signs of the gas zone have been found in the present test. Both tests have been located in section 18-20n-2w.

PARKER DRILLING CO. is drilling an important wildcat for Continental Oil Co. in Saint James Parish about 30 miles north of Lutcher

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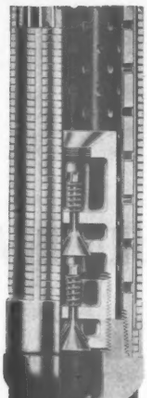

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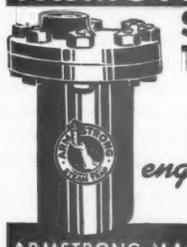

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Contractors

in southern Louisiana. It is No. 1 Colonial Sugars, and is now coring below 8,101 feet. Coring started at 8,000 feet and is scheduled to continue possibly to 11,000 feet. The well was commenced the latter part of June and as yet no shows have been encountered. Contracts were received last week by Parker Drilling Co. for three new West Texas wells. Two are for Texas Co.; No. 5 and No. 6 Parker "B" and the other is for Barnsdall; No. 3 Ford. All three tests are in the Harper field of Ector County.

TAUBERT & McKEE, Fort Worth contractors, are drilling a well in Haskell County, Texas, which gives promise of opening a new field. It is the T. P. Cannon test on the J. A. Mathews ranch, Narcissa Thompson Survey, 1 mile north of Woodson. Plug was drilled from casing cemented on top of 13 feet of saturated lime topped at 4,010 feet and the test is now being acidized in an attempt to bring it in. Taubert & McKee have spudded in another Haskell County wildcat; this one for Indian States Oil Co. on the T. P. Jones lands in the Coryell County School Survey. Contracted for 4,000 feet, 80 feet of surface casing has been cemented and actual drilling will start in a few days. The wildcat will test both the Cisco and the Canyon horizons and down to the Adams Branch marker of the Palo Pinto lime.

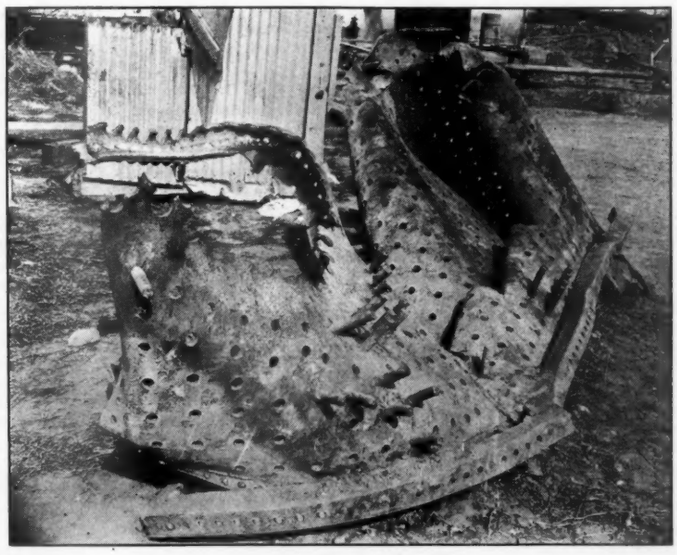
HAWKINS & HOWELL, of Tyler, wildcat drillers in the East Texas Basin, have just finished a dry hole in Henderson County and are moving that rig to a new wildcat location in Kaufman County. The drillers abandoned No. 1 Tidmore, drilled for Lignie Petroleum Co. in central Henderson County after the Woodbine sands proved barren. Their Kaufman wildcat is for W. G. Martin and is about 2 miles northeast of Kemp. The test is contracted for 3,500 feet and will seek production from the Woodbine.

HERNDON DRILLING CO., Tulsa, is drilling No. 3 Johnson, in S half SW section 12-18s-8w, Geneseo pool, Kansas, for Continental Oil Co., with a steam rig.

GLENN CAMPBELL, Tulsa, has completed No. 4 Zajic, in section 13-18s-8w, Geneseo pool, Kansas, for Shell Petroleum Corp.; an electric rig has been used, operating on purchased power.

DUWE-FARRIS, drilling contractors and producers, of Wichita, Kans., are drilling a test on 80 acres of the Remmert farm in section 3-18s-9w, between the Geneseo and Lorraine areas in western Kansas, on a "farm-out" from Mid-Continent Petroleum Corp.; a mechanical rig is used operating on gas.

FRANCIS COBERT, Osawatomie, Kans., is drilling for shale gas found at a depth of 450 feet southwest of the State Hospital north of Osawatomie; he is using a drilling machine he has built especially for his kind of work in a local shop.



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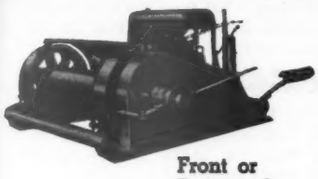

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North and East Texas

By
D. H. STORMONT

Rapid Development Is Seen for New Canyon Sand Pool

WICHITA FALLS, Tex., Aug. 8.—Activity in the North Texas area featured much development in the new Canyon pool in the southern part of the county, a mile west extension to the K.M.A. field, and an extension to the 3,800-foot pay section of the Hull-Silk pool in Archer County.

Rapid development is seen for the new Canyon sand pool recently opened by King Oil Co. and Madden & Christie No. 1 Jackson in the southern part of Wichita County when the King company acquired more acreage around the discovery well and planned an active drilling campaign for the near future. The company took over 416 acres out of the Madden-Goldsmith & Christie block, the Rathke Oil Co. lease and the Perkins-Collum lease. The Canyon pool was assured of its first extension last week when Panhandle Refining Co. and Madden & Christie No. 1 Jackson, 1,000 feet southeast of the discovery well, flowed 147 bbls. of oil in 19 hours through tubing. This outpost found the Canyon sand from 2,622 feet to 2,630 feet, total depth.

Extension of the western boundaries of the K.M.A. pool 1 mile was seen when Consolidated Oil Co. No. 1 J. J. James, section 16, Block 7, H.&T.C. Survey, encountered sand from 3,935-77 feet. The outpost was shot and started flowing by heads while cleaning out. A production test will be made next week, however, the well is estimated for 500 to 800 bbls. daily.

Texas Co., retroactive to August 1, will reduce its oil purchases in the K.M.A. pool to 8,000 bbls. daily, or 56,000 bbls. per week. This cut back in its taking means that the company will handle only 75 per cent of the allowable of each well as set by the railroad commission. Although no announcements have yet been made, it is expected that other pipe line companies in the field will follow suit.

Under the August proration order for the field the top allowable is 32 bbls. per well and under the Texas Co. order, this will be reduced to 24 bbls. per well. The company's action will allow it to take crude from approximately 50 of the estimated 100 to 120 unconnected wells in the field. There are 604 wells in the pool producing a total allowable of 18,131.49 bbls. per day; of this amount 9,085 bbls. is well allowable and 9,046.49 bbls. is acreage allowable.

Archer County

First extension in several months for the 3,800-foot horizon of the Hull-Silk pool of northern Archer County was seen when Lester T. Burns No. 2 Aherns, Lot 5, Block 128, Abner Nails Survey, north offset to the Thurman-Lipscomb No. 1 Wilson, which extended the pool three-quarters of a mile to the northwest, cored saturated lime with streaks of sand from 3,931-62 feet, total depth. Casing was cemented on top of the lime and operators are drilling out plug with about 100 feet of oil and mud in the hole.

Archer County's newest deep-producing horizon, the 4,725-foot level, found two weeks ago in Fain-McGaha Oil Corp. No. 1 McCrory, 4 miles east of the Hull-Silk pool, is giving indications of being a very prolific section. The well was still in the testing stages last week; however, following a shot, the well flowed 160 bbls. of oil in 36 minutes. A little water is showing at the bottom of the hole and operators are preparing to swab to bottom and determine its source. The best previous flow of the well was 95 bbls. of oil in 45 minutes before shot.

Other Counties

Sinclair Prairie Oil Co. has given Montague County a deep Ellenburger wildcat. It is No. 1 Hill, Block 71, Kaufman County School lands. The wildcat set 15½-inch surface casing at 350 feet and is drilling ahead below 1,000 feet.

In Clay County, Lester T. Burns is drilling below 4,120 feet toward completion of a 6,000-foot contract after passing up good showings in the prolific Strawn formation from 4,038-60 feet. The test is on the Lyles farm in Block 27, St. Augustine University lands, about 10 miles south of Henrietta. Also in Clay County, Walter H. Gant No. 1 Edwards, S. E. Beldon Survey, 6 miles east of Henrietta, is drilling plug from casing cemented on top of saturated lime from 5,994 feet to 6,003 feet.

EAST CENTRAL TEXAS

DALLAS, Tex., Aug. 8.—A new drilling campaign for the Flag Lake pool of northwestern Henderson County is planned by Humble Oil & Refining Co. for the near future. This small Woodbine sand field has experienced a lag in activity over the past few weeks, pending the outcome of several important tests. These have been completed and Humble is preparing to move one of its rigs from the now almost inactive Talco field of Franklin and Titus counties down to the Flag Lake area and get started on a campaign which may include 12 new tests, depending upon the results of each one as it is drilled.

New Wildcats

An increase in activity for East Central Texas was noted over the past week as eight new wildcats were staked. Anderson County got two, and one each was given Freestone, Grayson, Lamar, Navarro, Rains, and Van Zandt counties. In Anderson County, J. H. Gardner staked No. 1 G. W. West in the L. Hopkins Survey, 2 miles southeast of Denison Springs, and H. L. Hunt staked No. 1 Shaw & Cern in the D. Parker Survey. This well was drilled to 4,647 feet some time ago and the new operators are cleaning out with intentions of carrying it deeper. In Freestone County, G. Shryock staked No. 1 M. S. Clark in the DeCanton Survey, 8 miles northwest of Teague. O. L. McDougal made location for No. 1 F. E. Jackson in the Holland Coffee Survey and about 7 miles north of Pattsboro in Grayson County. Dahl Brothers & Barr staked No. 2 McQuiston in the R. Russell Survey just north of Paris in Lamar County. In Navarro County, Howze Oil Co. made location for J. A. Jackson in the R. C. Doon Survey, one-half mile east of Powell.

Parsons & Andree staked No. 1 F. H. Glass in the E. E. Lawhorn Survey, about 1¾ miles southeast of Point in Rains County. The test is now drilling below 1,840 feet. In Van Zandt County, W. S. King made location for No. 1 Edna Watson in the M. G. Whitaker Survey, approximately 5 miles south of Grand Saline.

A great deal of blocking and leasing is being carried on in Hunt and Leon counties with three major companies' geophysical units working and several local operators closing deals. These two counties are in line for a drilling campaign in the near future.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour tests)

Anderson County

In the Long Lake field, F.H.E. Oil Co. No. 1 Tom Pace, dry and abandoned at 5,364 feet.

Limestone County

A. H. Turner No. 1 Herrod, dry and abandoned at 3,842 feet.

Henderson County

In the Flag Lake field, Lignite Petroleum Co. No. 1 Tidemore, dry and abandoned at 4,116 feet. Richards & Holloway No. 2 Tarkington, dry and abandoned at 3,842 feet.

EAST TEXAS FIELD COMPLETIONS

(One-hour tests)

Gregg County—Longview Area

Joe Long Drilling Co. No. 32-A W. W. Owens, junked and abandoned at 3,500 feet. Sinclair Prairie No. 22 York, 3,553-3,821 feet, 50 bbls. Sun Oil Co. No. 43 J. M. Haynes, 3,597-3,649 feet, 60 bbls.

Gregg County—Kilgore Area

Gulf Oil Corp. No. 6 J. S. Elder, 3,515-3,527 feet, 60 bbls. Magnolia Petroleum Co. No. 9 Andrews, 3,608-3,619 feet, 72 bbls.; No. 10 Ed Mitchell, 3,580-3,620 feet, 72 bbls. Shell Petroleum Corp. No. 8 D. Carr, 3,416-58 feet, 40 bbls. Sinclair Prairie No. 58 M. T. Cale, 3,552-3,790 feet, 40 bbls.

Rusk County—Kilgore Area

J. Beren No. 10 Abe Holt, 3,680-3,725 feet, 5 bbls. Humble Oil & Refining Co. No. 44 J. M. Peterson, 3,589-91 feet, 82 bbls.

Rusk County—Joiner Area

Atlantic Refining Co. No. 8-A C. Young, 3,644-3,702 feet, 35 bbls. Humble Oil & Refining Co. No. 9-B J. E. Sexton, 3,688-3,724 feet, 63 bbls. Hunt Oil Co. No. 21-B D. Bradford, 3,591-3,640 feet, 8 bbls.; No. 42-C R. W. Fair, 3,599-3,602 feet, 32 bbls. Ohio Oil Co. No. 15 R. G. Mason, 3,612-96 feet, 48 bbls.; No. 40 E. E. Moores, 3,650-3,707 feet, 26 bbls.; No. 42 E. E. Moores, 3,612-67 feet, 28 bbls.; No. 43 E. E. Moores, 3,602-57 feet, 36 bbls. Shell Petroleum Corp. No. 27-B H. Brooks, 3,612-3,738 feet, 40 bbls. Tide Water Associated No. 7 J. E. Thrash, 3,725-36 feet, 48 bbls. Vaughn No. 13 W. O. Alford, 3,808-12 feet, 18 bbls.

Smith County—Joiner Area

Hunt Oil Co. No. 20-B R. W. Fair, 3,713-15 feet, 35 bbls. Sinclair Prairie No. 7 Wright, 3,687-4,049 feet, 40 bbls.

Upshur County—Longview Area

Humble Oil & Refining Co. No. 43 J. K. Edward, 3,671-3,707 feet, 27 bbls. Rancho Oil No. 10 H. W. Mayes, 3,653-65 feet, 80 bbls. Shell Petroleum Corp. No. 9 W. M. Landers, 3,713-68 feet, 70 bbls. Stanolind Oil & Gas Co. No. 3 J. C. Newman, 3,616-53 feet, 50 bbls. Trentman No. 2 Cane & Williams, 3,711-12 feet, 1½ bbls.

Archer County

H. A. Schaeffer Oil Co. No. 5 W. P. Ferguson, 3,780-3,847 feet, 500 bbls.; No. 2 W. P. Ferguson A, 3,849-3,878 feet, 600 bbls. Underwood & Campbell No. 21 R. Campbell B, 990 feet, dry; No. 22 R. Campbell B, 950-76 feet, 60 bbls.

Clay County

Gray & Thweatt No. 1 Mrs. K. Engart, 1,393 feet, dry. T. A. Norwood and others No. 1 P. Room, 1,217 feet, dry. J. M. Tanner and others No. 6 G. D. Rigsby, 201-13 feet, 10 bbls.

Cooke County

Seitz Comegys No. 1 J. T. Whaley, 2,007 feet, dry.

Jack County

George Knox No. 1 G. W. Pollard, 600 feet, dry. McCutchin and others No. 1 Clayton, 2,985-3,112 feet, 165 bbls. Nelson Oil Syndicate No. 3 J. E. Henderson B,

(Continued on Page 93)

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26 JOURNAL SQUARE

JERSEY CITY, NEW JERSEY

Oklahoma Operations

By
DAL DALRYMPLE

Britton Wildcat Due to Test; Strike in Little River District

Oklahoma County wildcats continued to hold interest for Oklahoma observers at the week-end, with one of three considered certain to open an oil pool, a second given an outside chance to produce although not looking very promising and a third just getting under way. Added interest was given operations in Oklahoma the past week by wildcats that opened new producing areas in Pottawatomie and Seminole counties.

Olson Oil Co. and others No. 1 Vanek, SE SW NE section 4-12-3w, promising wildcat south of Britton and north of the Oklahoma City field in Oklahoma County, set 6⅝-inch casing at 6,717½ feet and was to test saturated second Wilcox sand found at 6,721-49 feet, total depth. If profitable production is not found in the lower sand, operators will perforate casing and test upper pay horizons.

North of Britton and about 3 miles northwest of the Olson well, Kerlyn Oil Co. and others No. 1 Methodist Home, SE SW NW section 21-13-3w, newest wildcat in the county, had set surface casing and was due to resume drilling.

On the southwest flank of the Oklahoma City field, operators were considering whether or not to set casing and test the Fain Drilling Co. and H. I. Grimes No. 1 Little, SW SW NE section 28-11-3w, the county's third outpost. It topped second Wilcox sand at 6,952 feet and cored to 6,979 feet, with the last 5 feet showing sand with only a slight color. Slight saturation had been found in upper parts of the sand. Although the second Wilcox was found about 300 feet lower than normal level of the Wilcox producing zone in the Oklahoma City field, it still was considered normal structurally and comparable to the discovery well in the Moore pool in Cleveland County, to the south. There has been no indication of salt water in the Fain & Grimes wildcat.

Atlantic Refining Co. No. 1 McCurry, NW NE SW section 6-6n-4e, Pottawatomie County wildcat, was shut in for storage after 3,000 feet of oil rose in the hole in 2½ hours. Oil was from Viola lime at 4,206-08 feet. If completed as a producer, it either will open a new pool between the Asher and St. Louis fields, or prove an extension to the latter.

Young and others No. 1 Edgeman, SE cor. section 17-7-6, pool opener west of Little River in Seminole County, swabbed 515 bbls. of oil in 16 hours from Wilcox sand at 4,378-80 feet, total depth, and was to be put on pump.

The Wilzetta pool in Lincoln County may be given a half-mile extension to the south if Indian States Oil Co. No. 1 Bailey, NW NW NE section 2-12-5, is completed as a producer. It was bottomed at 4,238 feet and operators were due to drill plug and test lime which had a good showing of oil.

Wildcat Activity

Texas Canadian Oil Corp. No. 1 Shultz, NE cor. section 29-23-1w, wildcat in Noble County, had first Wilcox sand at 5,062-90 feet, second Wilcox sand 5,138 feet, and was dry and abandoned at 5,142 feet, total depth.

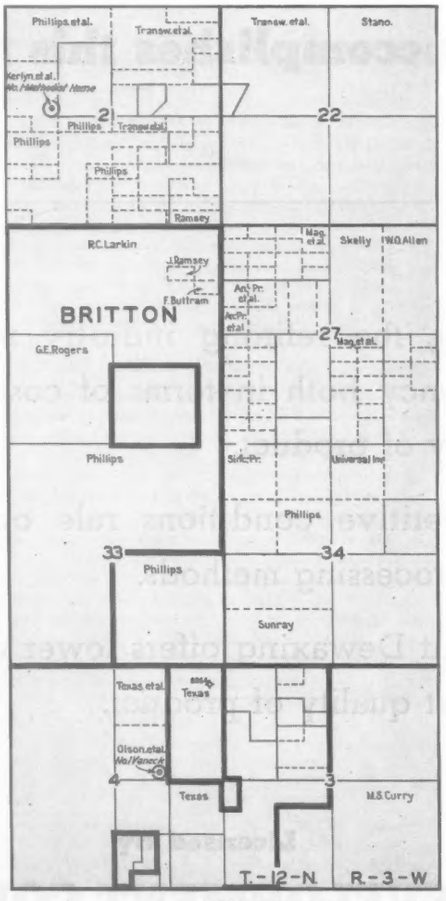
Simpson & Roodhouse No. 1-A Fleet, NW cor. section 27-7-5, Seminole County wildcat, had only a slight stain of oil in broken Earlsboro sand at 3,190 feet and was dry and abandoned at 3,226 feet, total depth.

Another Seminole County wildcat, Southern Oil Co. No. 1 Rainey, NW NE SE section 12-7-5, had sand at 3,890-3,905 feet and was dry and abandoned at 3,907 feet, total depth.

Two new Oklahoma wildcats were reported the past week. W. C. McBride, Inc., No. 1 Wilson, NW SW SE section 10-11-9, outpost in Okfuskee County, was a rig. Wagnor & Stogner No. 1 McGee, NE NE SE section 25-8-22w, wildcat in Beckham County, was rigging up machine to drill deeper.

Seminole County

Commercial Drilling Co. No. 1 Bird, NE NW SW section 14-9-6, in Seminole County, pumped and flowed 200 bbls. of oil in 24 hours through tubing from Hunton lime at 3,855-3,910 feet. It was bottomed in Wilcox sand at 4,079-86 feet, and plugged back to 3,970 feet and perforated casing when the deeper formation failed to produce oil.



Mid-Continent Map Co., Tulsa

The Olson and others wildcat in section 4-12-3w, Oklahoma County, was showing as a probable pool opener. The Kerlyn and others wildcat north of Britton was started recently

Wood Oil Co. No. 1 Greenlee, NE NW NW section 34-6-5, was dry and abandoned in Sylvan shale at 3,434-40 feet, total depth.

Indian Territory Illuminating Oil Co. No. 5 Faye, SW SE NW section 13-8-6, an old well in the Bowlegs pool, was deepened from 4,210 feet to 4,314 feet, was shot and pumped 57 bbls. of oil daily. Wilcox sand was topped at 4,296 feet.

New work in Seminole County: Beaver Oil Corp. and others No. 1 Hall, NE cor. section 7-6-8, Sasakwa area, location; W. A. Villines No. 1 Fisher, SW cor. section 25-7-5, Hazel pool, spudded; same operator's No. 1 Bullock, NW cor. section 36-7-5, Hazel area, cellar and pits; McBride Oil Corp. No. 4 Haulsee, SE SW SW section 8-9-7, East Seminole district, cellar and pits; Sinclair Prairie Oil Co. No. 4 Warrior, NE NW NW section 17-9-7, rig.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending August 6 and for the preceding week was as follows:

	Barrels	
	Aug. 6	July 30
Allen	5,550	5,250
Billings	4,350	4,225
Burbank	7,150	6,775
South Burbank	9,825	9,500
Balance Osage	17,000	17,000
Blackwell district	4,200	4,150
Bristow-Slick	6,500	6,450
Chandler	1,775	1,650
Crescent	3,250	3,775
Cromwell	3,175	3,050
Cushing-Shamrock	9,500	9,750
Duncan district	3,425	3,475
Edmond	4,850	4,575
Fish	3,025	2,925
Fitts	38,500	39,750
Jesse	2,550	2,775
Graham	4,150	4,300
Gray	835	925
Healdton	8,100	8,050
Hewitt	3,925	3,750
Keokuk	3,775	4,800
Konawa	1,100	1,175
Lucien	7,375	7,200
Moore	4,750	3,650
Oklahoma City	106,775	101,675
Olympic	4,775	4,875
Ramsey	1,425	1,550
Sasakwa	1,125	1,275
Sholem-Alechem	2,400	2,450
Seminole district:		
Bowlegs	7,475	7,250
Carr City	3,125	2,925
Dora	5,250	4,900
Earlsboro	4,150	4,025
South Earlsboro	350	375
East Earlsboro	4,275	4,175
Little River	6,400	6,350
East Little River	750	725
Maud	550	575
Mission	1,275	1,325
Seminole	6,550	6,350
East Seminole	1,450	1,425
Searight	2,350	2,325
Total Seminole	43,950	42,825
St. Louis-Pearson	17,875	17.750
Tatums	3,175	2,950
Tonkawa-Garber-Thomas	4,125	4,075
Wewoka	2,025	2,075
Yale-Jennings	3,725	3,700
Other pools	72,890	78,500
Total Oklahoma	422,900	422,625

Pottawatomie County

Mudge Oil Co. No. 1 Baptiste, NE cor. section 20-7-4, was the only new well completed the past week in the St. Louis district, Pottawatomie County. It was acidized two times and swabbed and flowed 165 bbls. of oil initially in eight hours from Hunton lime at 3,860-3,900 feet. Gravity of the oil was 37 degrees. It was bottomed at 4,140 feet and plugged back to 3,905 feet.

Ross Oil Co. No. 2 Caudle, SW cor. section 13-7-4, an old well, was plugged back from 3,124 feet to 3,110 feet, was shot and flowed 15 bbls. of oil daily, with 1,750,000 feet of gas.

Four new operations in the St. Louis field was reported. Denver Producing & Refining Co. No. 2 Zoeller B, NW NE SE section 5-6-5, was a location. F. C. Hall, Inc., No. 1-B Clour, SE NW SE section 11-7-4, was a location. Elbar Corp. No. 1 Kite, SW SW SE section 11-7-4, was a location, and same company's No. 2 Hathcock, SE SE SW section 11-7-4, was moving in rotary tools.

Pontotoc County

Magnolia Petroleum Co. No. 10 Norris, SE SW NE section 25-2n-6, Fitts district, Pontotoc County, had

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List 960 is made of forged steel, in the rising-stem type, with quick-opening threads that never stick. Valve may be repacked under full pressure, when in the open position.

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Cromwell sand pay at 2,538-2,635 feet, and flowed 252 bbls. of oil through tubing in 24 hours.

Westheimer & Neustadt No. 5 Factor, NE SE SW section 25-5-7, Allen district, had sand at 2,262-69 feet, total depth, and was estimated good for 25 bbls. of oil daily, but was not a completion.

Barbara Oil Co. No. 6 Chapman, SW SW SE section 25-5-7, Allen area, was a location. Magnolia Petroleum Co. No. 11 Norris, NW NW SE section 25-2n-6, Fitts sector, was rigging up rotary.

Lincoln County

Wilcox Oil & Gas Co. No. 1 Terry, NE SE SE section 9-14-6, Sac and Fox pool, Lincoln County, found Prue sand at 3,046 feet, total depth 3,191 feet, was shot and flowed 180 bbls. of oil in 24 hours through tubing, with gas estimated at 2,000,000 feet.

Mudge Oil Co. No. 2 Robertson, SW NE SW section 10-14-6, topped Prue sand at 2,965 feet, was bottomed at 3,061 feet, was shot and reshot and flowed 32 bbls. of oil daily, with an estimated 1,500,000 feet of gas.

Jones Associated Oil Co. No. 2 Wray, NW SW SE section 10-14-6, was shot and reshot and pumped 29 bbls. of oil daily from Prue sand at 2,930 feet, total depth 3,006 feet.

New operations in the Sac and Fox pool: Mudge Oil Co. No. 2 Wray, NW NW SE section 10-14-6, spudded; Wilcox Oil & Gas Co. No. 3 Fitch, SE NW NE section 15-14-6, drilling below 2,690 feet; Sinclair Prairie Oil Co. No. 5 Buckles B, NW SW SE section 15-14-6, drilling below 2,410 feet.

Oklahoma County

Kerlyn Oil Co. No. 1 Dunn, SE NW SE NE section 35-12-3w, Oklahoma City field, Oklahoma County, perforated casing and tested at several levels but was dry and abandoned at 6,391 feet, total depth.

Garfield County

Magnolia Petroleum Co. No. 1 Clark, SE cor. section 28-21-6w, second well to be drilled in the Waukomis area, Garfield County, topped second Wilcox sand at 7,323 feet, failed to find oil and was dry and abandoned at 7,360 feet, total depth. The Marshall zone, productive in the Waukomis discovery well, was topped at 7,260 feet.

Payne County

Tom Palmer and others No. 1 Liter, SW SW NW section 9-19-1w, Orlando pool, Payne County, was dry and abandoned at 1,402 feet, total depth.

Deep Rock Oil Corp. No. 3 Little Chief, NE NW NE section 4-18-5, an old Payne County well, being deepened from 3,333 feet, was drilling below 3,441 feet.

Creek County

McMann & Steckoll No. 3 Walker, NW SE NE section 32-14-10, Tuskogee area, Creek County, had Dutcher sand at 2,787 feet and was dry and abandoned at 2,843 feet.

Sinclair Prairie Oil Co. No. 7 Oafes, C NE section 14-19-9, Mannford district, had Cleveland sand at 1,210-66 feet, total depth 1,272 feet. and flowed 45 bbls. of oil daily, initially.

George Sawyer No. 4 Jackson, NE SW SE section 14-19-9, was dry and abandoned at 2,121 feet, total depth.

Abe Pepis No. 1 Whitman, SW SW SE section 14-18-10, Kellyville district, had Mississippi lime at 2,482-2,608 feet, total depth, and was dry and abandoned.

Klingensmith Oil Co. No. 1 Anthis, SE SE NW section 36-18-10, was dry and abandoned in Mississippi lime at 2,280-93 feet, total depth.

Gled Oil Co. No. 2 Escoe, NE SE SE section 27-18-8, an old well in the Olive pool, was deepened from 1,333 feet to Red Fork sand at 2,613-39 feet, 2,649 feet total depth, and pumped 7 bbls. of 37-gravity oil daily.

L. K. Marrs No. 5 Wilson, NW NE NE section 34-18-8, an old well, was deepened from 1,340 feet to Red Fork sand at 2,615 feet, total depth 2,642 feet, and pumped 65 bbls. of oil daily. Gravity of the oil was 37 degrees.

New work in Creek County: Deffendaugh and others No. 1 Ross, NE NE SW section 32-14-8, moving in rig; Steinberger and others No. 1-A Kimble, SE NE NE section 10-14-10, drilling below 980 feet; Bruin Oil Co. No. 2-B Harjo, NW NE SW section 27-14-10, drilling below 2,200 feet; Sinclair Prairie Oil Co. No. 1-A Farmer, SE NE SW section 3-16-7, location for an Arbuckle lime test; Marrs & McMahan No. 1-B Noble, NW cor. section 35-18-8, rigging up machine; Big Four Petroleum Co. No. 2 Young, NE NE NW section 24-19-7, drilling below 432 feet.

Osage County

Sinclair Prairie Oil Co. No. 8 Osage, SE SW NW section 22-25-6, Osage County, topped Bartlesville sand at 2,701 feet, total depth 2,750 feet, plugged back to 2,749 feet, was shot and swabbed 45 bbls. of oil daily.

W. R. Denman No. 4 Osage, SE NW NE section 34-29-11, was completed as a 2-bbl. pumper in Peru sand at 960-933 feet, total depth.

C. R. Oakleaf No. 153 Osage, SW SE NE section 34-29-10, an old well, was dry and abandoned after plugging back from 1,725 feet to 1,066 feet.

Barnsdall Oil Co. No. 4 Osage, SE NE SW section 23-24-10, had spudded. Sinclair Prairie Oil Co. No. 8 Osage, NW NW NE section 26-24-10, was a location. Same company's No. 3 Osage, NE NW SW section 22-25-6, was a location.

Pawnee County

Selby Oil & Gas Co. No. 1-A Peterman, SW NW NW section 24-20-9, Pawnee County, had a hole full of water in Wilcox sand at 2,626-30 feet, total depth, and was abandoned.

Magnolia Petroleum Co. No. 3 Lesher, NE SE NE section 21-20-6, an old well, was deepened from 2,467 feet to 2,832 feet, had a bad hole, cemented back to 2,787 feet, and was underreaming. Comail Oil Co. No. 2 Zackafoose, NW NE SE NE section 23-20-9, had sand at 1,249-75 feet, total depth, showed for 4 bbls. of oil daily naturally, was shot and cleaning out. Johnson Oil Refining Co. No. 7 Beyl, SW SE NW NE section 27-20-9, was shut down at 300 feet after setting surface casing at 250 feet.

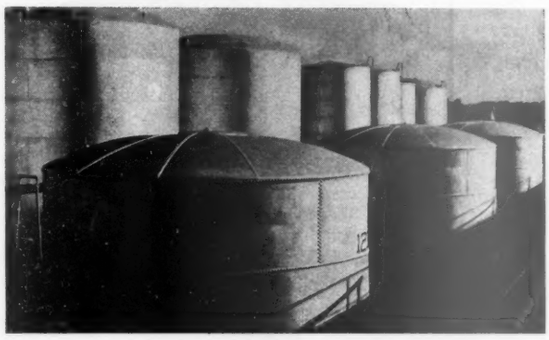
Caddo County

Tom Palmer No. 1 Dixon, SE SE NW section 35-6-10w, Cement field, Caddo County, had Pontotoc sand at 3,372-3,427 feet, total depth, and pumped 102 bbls. of oil daily.

Magnolia Petroleum Co. No. 7 Sames, SW NW NE section 35-6-10w, had dug cellar and pits.

Grady County

T. H. McCasland No. 2 Mecklenberg, SE cor. section 6-3n-5w, Knox pool, Grady County, swabbed and flowed



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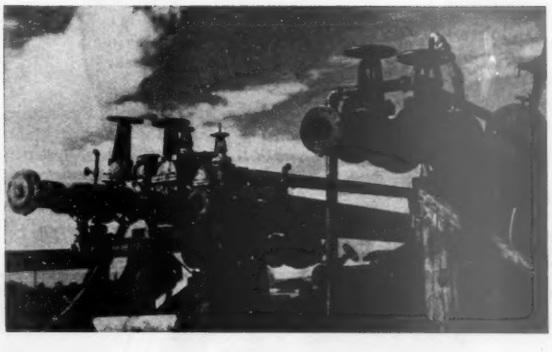

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Corpus Christi, Texas

160 bbls. of oil daily from Pontotoc sand at 2,053-75 feet, total depth.

Same operator's No. 1-A Mecklenberg, SE cor. section 6-3n-5w, twin well, had Pontotoc pay at 2,746-55 feet and 2,783-95 feet, total depth, and pumped 84 bbls. of oil daily.

T. H. McCasland No. 3 Mecklenberg, SE cor. section 6-3n-5w, some 20 feet south of No. 1-A well, was waiting on cement at 1,437 feet.

Carter County

Carter Oil Co. No. 1 Carter-Harley, C NW NW section 19-2s-3w, deep test in the Carter County sector of the Milroy pool and east offset to the deep discovery on the Stephens County side of the pool, failed to find profitable production after acidizing and was abandoned at 8,280 feet, total depth. This test was started in September, 1937.

Cox & Hamon No. 2 Jackson, SE SE NE SW section 15-4s-2w, an old well in the Hewitt pool, was deepened from 2,012 feet to 2,385 feet, and recompleted, pumping 12 bbls. of oil the first 24 hours.

Ideal Oil & Gas Co. No. 14 Scroggins, NE SE SE section 32-3s-3w, was an abandoned location.

Tillman County

Indian Territory Illuminating Oil Co. No. 3 Graham, SW SW NE section 1-3s-19w, Frederick pool, Tillman County, had initial production of 205 bbls. of oil daily from Canyon lime, total depth 3,122 feet. Lime was topped at 3,100 feet.

Jackson County

O. P. Burnham No. 1 Ellis, NW SW NE section 6-1s-19w, Tipton pool, Jackson County, had granite wash from 2,444 feet, was bottomed at 2,560 feet, and pumped 70 bbls. of oil daily.

Cotton County

J. C. Davis No. 3 Anderson, NE SW SW section 23-1s-10w, Walters area, Cotton County, found Hoxbar sand at 2,175-79 feet, total depth, and produced 50,000 feet of gas daily.

Comanche County

W. T. Best No. 10 Curtis, SW NE SE section 25-2n-11w, Lawton pool, Comanche County, missed the shallow sand and was abandoned at 175 feet, total depth.

Joe S. Truitt No. 8 fee, SW SW SE section 26-2n-11w, had sand at 323-352 feet, was estimated good for 5 bbls. of oil daily, and was shut down for liner.

Additional First Reports

In Hughes County, Wasson Oil Co. No. 1-A Bulling, CE half SE NW section 35-8n-8e, Jefferson pool, had sand at 2,020-32 feet, was shot, estimated good for 50 bbls. of oil, and was being put on pump, but was not a completion. Wilder and others No. 2 Yargee, NE NE SW section 27-9-10, an old well in the South Wetumka pool, was deepened from 2,740 feet to 3,169 feet, had a hole full of water and was abandoned.

In Okfuskee County, Wrightsman Oil Co. No. 1 Lehmer, SW cor. section 24-11-8, was a location.

In Garvin County, Skelly Oil Co. No. 1 Jones, SW SW SE section 19-1n-3w, Tussy pool, had dug cellar and pits.

In Stephens County, Carl Koester No. 1 Jones, SW NW SE section 23-1s-5w, Velma pool, was drilling with machine below 400 feet. Louis Sikes No. 1-A Walker, SW SW NE NE section 16-1s-8w, an old well in the Duncan pool, was rigging up rotary tools to deepen.

In Jefferson County, Rips & Ungerman No. 6 Pennington, SW NW SW SW section 16-7s-5w, Oscar-Seay area, was rigging up machine.

East Texas Fields

(Continued from Page 88)

2,760-2,948 feet, 5,000,000 feet gas. C. B. Pruitt and others No. 5 M. Covington, 320-46 feet, 1 bbl. Reynolds & Spaulding No. 1 W. H. Brannon, 375 feet, dry. Smith Reaves and others No. 1 J. N. McAnear, 452 feet, dry. Sullivan Oil Co. No. 3 Swasey & Yates, 358-73 feet, 12 bbls. H. Witmer, II No. 2 T. Hitchcock, 312-30 feet, 12 bbls.

Foard County

Wynne Drilling Co. No. 1 J. W. Wishon and others, 5,121 feet, dry.

Wichita County

C. Homer Harrison No. 2 Union Central Life Insurance Co., 315 feet, dry. Tucker Oil Co. No. 34 C. T. Taylor C, 1,663-1,701 feet, key well. Bolin & Whittington No. 7-A Waggoner Brothers, 1,175 feet, dry. Consolidated Oil Co. No. 11 W. P. Ferguson, 3,708-3,826 feet, 1,600 bbls. Geier Brothers & Jackson No. 6 D. R. Preston, 960 feet, dry. Golding & Cochran No. 3 D. R. Preston, 3,855-3,926 feet, 1,200 bbls. W. H. Hammon No. 17 S. H. McCarty A, 3,570-3,739 feet, 550 bbls. Hammon-Hanlon & Buchanan, Inc. No. 2 W. H. Hammon, 3,965-4,061 feet, 696 bbls. Hanlon & Buchanan, Inc. No. 2 Fassett & Tuttle B, 3,900-77 feet, 1,008 bbls. T. F. Hunter No. 40 Waggoner Brothers A, 3,782-3,930 feet, 408 bbls.; No. 31 Waggoner Brothers A, 3,760-3,940 feet, 720 bbls. King Oil Co. No. 4 Waggoner Brothers, 3,764-3,821 feet, 896 bbls. W. A. Krohn No. 2 Mrs. G. Jennings, 792-910 feet, 20 bbls.; No. 3 Mrs. G. Jennings, 76-93 feet, 5 bbls. Magnolia Petroleum Co. No. 12 C. M. Putman, 1,022-1,108 feet, 15 bbls. Melat & Graham No. 1 Munger D, 3,669-3,882 feet, 32 bbls. W. B. Omohundro No. 13 D. E. Hooks, 3,666-3,821 feet, 888 bbls. Panhandle Refining Co. No. 22 R. J. Coleman, 825-48 feet, 5 bbls. Pols & Schulz No. 1 Ed Foster L, 1,996 feet, dry. George Proctor No. 33 Ed Foster A, 1,660-68 feet, 10 bbls. D. M. Ross No. 24 Sue Mitchell, 840-58 feet, 15 bbls. Texas Co. No. 16 Waggoner Brothers A, 3,785-3,854 feet, 472 bbls.

Montague County

Seitz Comegys No. 3 J. B. Roach B, 1,750-59 feet, 150 bbls. Texas Co. No. 3 Mrs. A. B. Hinton, 856 feet, dry.

Wilbarger County

Waggoner Refining Co. No. 5 W. T. Waggoner T, 1,964-83 feet, 25 bbls.

Young County

Black Gold Petroleum Co. No. 2 J. H. Cearly, abandoned location. J. P. Doss No. 1 R. D. Webb, 756-63 feet, 30 bbls. Pemeta Oil Co. No. 8 Y. Swain, 690-95 feet, 10 bbls. E. F. Peters and others No. 1 W. J. Ragle, 1,064-67 feet, 10 bbls.

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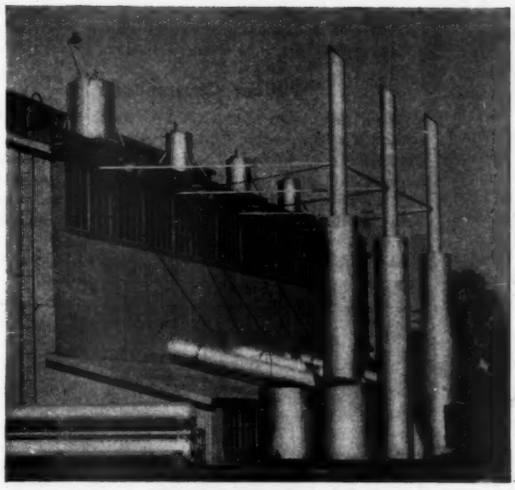

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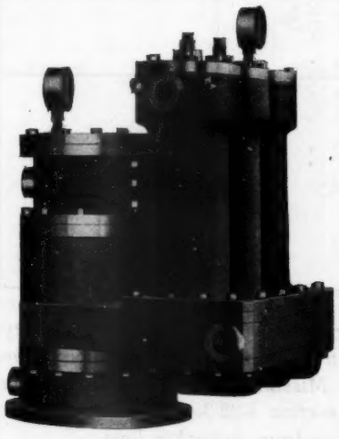

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Kansas Developments

By
DAL DALRYMPLE

Barber County Given Initial Arbuckle Pool at Lake City

Discovery of Arbuckle lime production in the Lake City area of Barber County was the highlight of exploratory activities in Kansas the past week, a period in which pool openers were completed in Rice and Russell counties, fields in Barton, Cowley, Harvey and McPherson counties were extended and new production was uncovered in Stafford County.

Pryor & Lockhart, Inc., No. 1-C Gant, NE cor. section 18-31-13w, not only extended the Lake City pool of northwestern Barber County one-fourth mile southeastward but gave that recently discovered area a new producing horizon. It found Arbuckle lime at 4,607-10 feet and oil rose 1,500 feet in the hole in three hours. It was shut in and was to be tested early this week. Originally it found gas estimated at 5,000,000 feet in Viola lime at 4,398-4,447 feet and also had a showing of oil in Wilcox sand. The Lake City pool was opened in June, 1937, at Pryor & Lockhart No. 1-A Gant, SE NW SE section 7-31-13w, which made potential of 1,377 bbls. of oil from Viola lime at total depth of 4,438 feet. The pool is 10 miles northwest of Medicine Lodge.

Atlantic Refining Co. No. 1 Wise, NW cor. section 13-25-14w, 3 miles southwest of St. John in Stafford County, topped Lansing-Kansas City lime at 3,583 feet, found showings of oil and gas and at 3,647 feet oil rose 1,250 feet in the hole in 12 hours and it was swabbed at the rate of 49 bbls. in two hours, with gas estimated at 1,000,000 feet. It was deepened to 3,656 feet, oil rose 1,500 feet in the hole, and it was to be tested. Operators were drilling ahead below 3,675 feet and may go to Arbuckle lime. Location is on a community block owned by the Atlantic, Tide Water, Cities Service, Continental and Darby companies.

Another Stafford County strike was recorded at Cities Service Oil Co. No. B-1 Smith, CWL SW section 16-21-11w, 1½ miles southwest of the Snider pool, nearest production. It found Arbuckle lime at 3,401-09 feet, total depth, was acidized with 2,000 gallons, and pumped 80 bbls. of oil an hour. The operating company has a solid 4,800-acre block, mostly east and northeast of the wildcat.

Crown Petroleum Co. and Hershey & Ash No. 1 Wolf, SE SW SE section 36-19-12w, one-fourth mile southwest of Ellinwood in Barton County, was acidized with 2,000 gallons and pumped 15 bbls. of oil hourly from lime at 3,347 feet, total depth. Location of this outpost is 1¾ miles northwest of the West Ellinwood pool.

Ainsworth Extended

The Ainsworth pool of Barton County was extended three-fourths mile eastward at Western Kansas Oil & Refining Co. No. 1 Gage, CEL W half NW section 2-17-13w. Oil rose 1,300 feet in the hole from Arbuckle lime at 3,309-25 feet, total depth, and operators were preparing for swabbing test. Seven-inch casing was set on top of the lime.

The Burrton pool of Reno and Harvey counties was given an extension three-fourths mile northeastward at No. 1 Martindell, CSL N half SE section 18-23-3e, in Harvey County. It found 5,126,870 feet of gas daily at 3,287 feet, but was drilling deeper below 3,312 feet in search of the Mississippi chat oil zone.

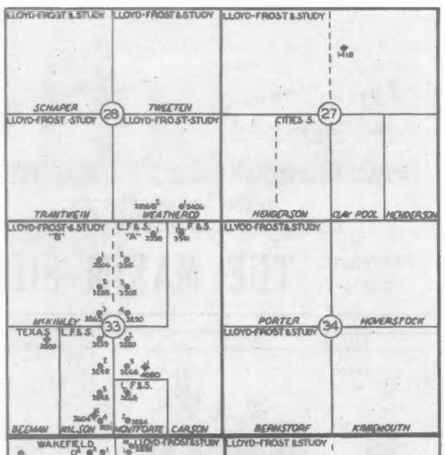
Coralena Oil Co. No. 1 Hefferman, NE SE SW section 34-14-13w, wildcat in Russell County, has been designated as the opener of the South Letsch pool. It made potential of 804 bbls. of oil daily at plugged-back depth of 2,926 feet in Lansing lime topped at 2,876 feet.

Although wildcat failures were recorded in Riley and Jackson counties recently, the northeastern section of the state—largely an untested district—continues to hold interest for Kansas operators. One of the recent tests announced for that area is that of D. D. Fowler, independent operator of Kansas City, who is starting the No. 1 Malcolm Aye, in section 10-12-8e, Geary County, and 12 miles south of Manhattan. It is on structure, with geology by George Forrester and L. S. Bradford of Wichita. Bert Teague has the drilling contract. The operator, who has some 12,000 acres of leases in the area, is prepared to drill to 4,500 feet. First objectives, however, was to be Bartlesville sand expected at around 1,800 feet and first break in Mississippi lime at around 2,100 feet. Another new Geary County test is that of Midland Oil Co., Brewer & Landon No. 1 Gfeller, 4 miles west of Junction City on a 10,000-acre block.

Wildcat Completions

Shell Petroleum Corp. No. 1 Cramm, NE NW NE section 15-19-9w, wildcat in Rice County and east of the Chase pool, pumped 307 bbls. of oil the first four hours, 270 bbls. the next four hours and made potential of 1,622 bbls. Gravity of the oil was 50 degrees. It had Arbuckle lime at 3,240 feet and was bottomed at 3,251 feet.

Aylward Production Co. No. 1 Solbach, SE SE NE section 31-14-14w, wildcat south of the Big Creek pool in Russell County, topped Arbuckle lime at 3,143 feet, was bottomed at 3,155 feet, pumped 150 bbls. of oil the first four hours, 153 bbls. the next four hours and made potential of 901 bbls. of oil.



Mid-Continent Handy Map Service, Wichita

The Weathered pool, Cowley County, claimed attention of Kansas operators anew when big Mississippi lime production was found in section 4-32-3e. Other production is from Arbuckle lime

Two northeastern Kansas wildcats were failures, one in Riley County and one in Jackson County.

Coronado Oil Co. and Wagaman & Vanier No. 1 Parks, SE cor. section 16-10-8, east of Manhattan in Riley County, had Lansing lime at 840 feet, based Kansas City at 1,135 feet, topped Conglomerate at 1,260 feet, had a hole full of water at 1,909 feet, had Mississippi lime at 1,300-1,705 feet, Viola lime 1,760 feet, Simpson formation 1,890 feet and was dry and abandoned at 1,989 feet.

Haverback and others No. 1 Marble Savings Bank, NE NE section 26-9s-14, Jackson County wildcat, topped Mississippi lime at 2,125 feet, water intruded at 2,155 feet and 2,215 feet, based Mississippi at 2,350 feet, had Chattanooga shale at 2,564 feet, Hunton lime 2,580 feet, Viola lime 2,582 feet with a hole full of water, more water at 2,620 feet and was dry and abandoned at 2,905 feet, total depth.

C. E. Schlemeyer No. 1 Belveal, C SE NW section 3-8s-24w, wildcat in Graham County, topped anhydrite at 1,990 feet, Lansing lime 3,585 feet, had several showings of oil in that formation, based Kansas City at 3,825 feet, topped Conglomerate at 4,015 feet, Arbuckle lime 4,033 feet, basal sand 4,360 feet and was dry and abandoned at 4,387 feet, total depth.

Austin Drilling Co. No. 1 Slade, NE NE NW section 35-25-12w, Stafford County wildcat, topped Kansas City lime at 3,574 feet and was dry and abandoned at 3,873 feet, total depth.

Mid-Continent Petroleum Corp. No. 1 Collins, NW cor. section 24-20-26w, wildcat in Ness County, had Mississippi lime at 4,460-4,555 feet, nothing was showing and it was dry and abandoned.

Max Steinbuchel and others No. 1 Fox, NW SE NE section 25-26-3e, an old wildcat in Butler County, was deepened from 1,010 feet to Arbuckle lime 3,090 feet, total depth 3,200 feet, and was dry and abandoned.

Estimated Daily Production

Estimated daily production for Kansas for the week ending August 6, and for the preceding week was as follows:

	Barrels	
	Aug. 6	July 30
Oxford City	1,275	1,250
Burrton	9,425	9,475
Ritz-Canton	4,625	4,775
Graber	3,650	3,650
Hollow-Nikkel	2,975	3,025
Lerado	1,050	925
Voshell	1,975	1,950
Wellington	4,575	4,725
Ellsworth County:		
Lorraine	2,075	2,425
Other pools	975	1,105
Rice-Barton counties:		
Bloomer	1,825	2,475
Chase	3,350	4,225
Geneseo	3,650	3,525
Raymond	675	850
Silica	7,950	9,200
South Silica	1,250	1,375
Keesling	900	1,025
Wherry	1,950	3,975
Miscellaneous Barton	5,245	5,880
Miscellaneous Rice	4,810	3,695
Russell County:		
Fairport	2,045	1,990
Gorham	2,045	1,310
Russell	1,085	897
Sullivan	5,750	5,745
Trapp	5,785	6,210
Miscellaneous Russell	6,690	6,778
Sedgwick County:		
Valley Center	1,070	1,050
Miscellaneous	2,915	2,795
Ellis County:		
Bemis	4,075	3,550
Miscellaneous	3,045	2,720
Kingman County	550	585
Stafford County	5,420	5,025
Greenwood County	9,250	8,950
Butler County	21,475	15,000
Other fields	16,320	21,840
Total Kansas	151,725	153,975

Russell County

W. I. Southern, Inc., No. 1 Letsch, C N half S half SW section 17-15-13w, wildcat in Russell County, was completed as an extensioner to the Coralena pool. It found Arbuckle lime at 3,228 feet, total depth 3,230 feet, was acidized, pumped 188 bbls. of oil the first four hours, 186 bbls. the next four hours and made potential of 1,180 bbls.

(Continued on Page 98)

California Field Report

By
L. P. STOCKMAN

Wildcats Are Being Watched in Fresno, Cat Canyon Areas

LOS ANGELES, Calif., Aug. 8.—Two wildcats, Pure Oil Co. No. 1 S.P. in Fresno County and Standard Oil Co. No. 1 Los Flores in the Cat Canyon district of Santa Barbara County, are being watched with considerable interest by California prospectors as both have logged showings indicating a possibility of commercial production. The showings logged in Pure Oil Co. test is especially interesting because of the discovery of a new field in Fresno County last month by Petroleum Securities Co., a few miles southeast of the East Coalinga field. This well is bottomed at 11,267 feet and a series of formation tests have tended to enhance the outlook. Top of the Eocene was logged at 11,100 feet and since this formation has been found highly productive in the East Coalinga area it may show production in this district. The Pure wildcat is in the Huron section of Fresno County in section 31-18-17 about 7 miles east of Coalinga. No. 1 S. P. was held up recently for several weeks by mechanical trouble and the company would not have spent the time and money if the hole did not show any promise. The Standard wildcat in the Cat Canyon district of Santa Barbara County is bottomed at 6,560 feet and preparations are under way to run in a liner and make a production test. This well, in section 27-9-33, will, like Pure's wildcat, result in the discovery of a field if commercial production is secured. A recent formation test in No. 1 Los Flores resulted in the recovery of 1,500 feet of 14-gravity oil indicating Standard may have found a new productive horizon. Officials of the company are not any too sanguine about developing production but believe there is a chance of getting production.

Wilmington

Only three new wells were completed in the Wilmington field but this decline in completions does not indicate any cessation in drilling. The recent decision of the state supreme court which held the city of Long Beach owned the tidelands adjacent to production will result in increased drilling within a short time. City officials completed a series of deals a few months ago whereby the city would be able to drill from surface locations inside the field and then whipstock the bottom of the wells beneath the tidelands and ship channels. Bids have not yet been asked by the city for development of the tidelands but early action is anticipated as a number of locations available are proved up for production. Superior Oil Co. was recently awarded a lease on a 1⅛-acre parcel held by the Long Beach Board of Education and the company will have a string of tools in operation within three weeks. Superior paid a cash bonus of $20,000 and signed the lease on the basis of 20 per cent royalty of oil and gas produced. This property is considered as proved up for Terminal zone production but commercial production can be expected in the Ranger zone. The period of competitive drilling is over in the Wilmington field but there are still enough undrilled locations to justify expectation that development will continue at about the present rate for several months.

None of the three wells completed this week showed substantial production as two were finished in the Ranger zone which is not as productive as the upper Terminal or Lower Terminal zones. General Petroleum Corp. completed No. 6 on Channel Community lease No. 3 flowing 140 bbls. of 15.9 gravity through a 40/64-inch bean from the Ranger zone with bottom of the hole at 3,170 feet. This well was finished with 618 feet of 5¾-inch liner including 327 feet of 50-mesh screen landed on bottom. The hole was gravel packed before being put on production. Richfield Oil Corp. has completed No. 7 Pacific Dock flowing 320 bbls. of 25.4 gravity through a 40/64-inch bean under a tubing pressure of 100 pounds and a casing pressure of 230 pounds. No. 7 Pacific Dock was bottomed at 4,325 feet in the Terminal zone. Richfield has concluded drilling operations on Nos. 1, 4, 8 and 9 on the same property and should have them tanking oil within a week. No. 2-O Long Beach Harbor Department of O'Kane & Brain, Inc., has been completed flowing 680 bbls. of 16.7 gravity cutting 5 per cent from the Ranger zone at 3,025 feet. Universal Consolidated Oil Co. has staked location for five wells on its Newport lease in the Long Beach section of the Wilmington field and will begin rig construction at once.

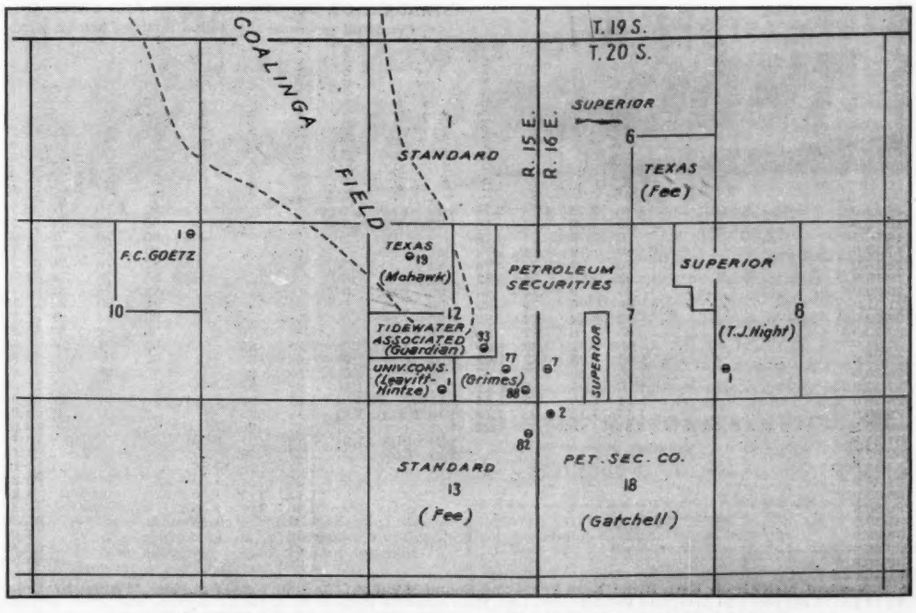
Torrance—Lomita

Deep zone development continues unabated in the Lomita section of the Torrance field but the peak has about been reached in drilling. No sudden letdown in drilling is anticipated as the productive area is being gradually expanded. At present an attempt is being made to connect this deep zone in the Lomita section of the Torrance field with the productive area discovered a few months ago by D. & B. Oil Co. During the week four wells and one former upper zone producer were finished in the lower zone. The largest completion was Silver Strand Oil Co. No. 1 Lomita flowing 793 bbls. of 26.9 gravity from 4,985 feet. The hole was finished with 228 feet of 5-inch liner including 209 feet of 125-mesh screen landed on bottom. The pay was logged considerably higher than it was cored in other wells in the same general area. Lomita Drilling Co. No. 2 proved good for 720 bbls. of 26.8 gravity and 300,000 feet of gas from 5,004 feet. This well, flowing through a 36/64-inch bean under a tubing pressure of 150 pounds and a casing pressure of 220 pounds, was finished with 146 feet of 5-inch liner including 123 feet of 125-mesh screen landed on bottom.

Consolidated Petroleum Co. No. 2 has been finished flowing 610 bbls. of 26.6 gravity and 480,000 feet of gas through a 29/64-inch bean under a tubing pressure of 175 pounds and a casing pressure of 240 pounds. This well was finished with a 7-inch water string cemented at 4,885 feet and 100 feet of 4¾-inch liner including 81 feet of 120-mesh landed on bottom. Coast Line Oil Co. No. 2 Barto finished at 4,990 feet has been completed pumping 145 bbls. of 26.6 gravity and Imperial Gypsum Oil Co. No. 2 Lomita has been recompleted pumping 280 bbls. of 26.5 gravity from 5,060 feet after the hole had been deepened from the upper to the lower zone. The latter well was finished with 1,860 feet of 7-inch liner including 45 feet of 100-mesh landed on bottom. Development in the Harbor City area south of the Lomita section where D. & B. Oil Co. found a zone productive is expected to show a substantial increase within a few weeks as most of the acreage available has been tied up and plans are being made to begin work.

Montebello

St. Helens Petroleum Co. completed another excellent well in the west end of the Montebello field when No. 28 Monterey was brought in flowing 1,450 bbls. of 36.8 gravity and 960,000 feet of gas from the fifth zone at 5,600 feet. This well is flowing through the tester, however, and will ultimately be killed and completed in the usual manner. St. Helens suspended No. 2 Eggleston in this field at 5,528 feet but resumed work the following day. This well is north of Union Oil Co. No. 1 Wilcox, which failed to find the fifth zone productive and was finally completed in the sixth zone. No. 2 Eggleston will probably be finished in the sixth zone although indications point to the fact that St. Helens hoped to secure production in the fifth. There is a very definite thickening of the shale body in the east end of the western extension and it will require additional development before the exact status of this area is understood. Brookline Oil Co. recompleted No. 1 Drake Community flowing 450 bbls. of 37.8 gravity oil cutting 12 per cent from 6,444 feet. This well was originally completed a few weeks ago as a flowing well but failed to hold up and the company was forced to put in a compressor. No. 1 Drake is just north of Beverly Boulevard and appears to have defined the southern limits of the extreme western end. V-8 Oil Co. should have its No. 1 Estelle on production within a few days as it is standing cemented in the pay. A formation test with the tester open 50 minutes resulted in a recovery of 45 stands of clean oil and two stands of water. McVicar & Rood No. 2 Manz, south of No. 1 Manz, on a formation test showed salt water and has been recemented. Standard Oil Co. should have No. 1 McDonald ready for a production test in a



Guijarral Hills section in the East Coalinga field of Fresno County

few days as it is in the pay in the sixth zone. A test of the fifty zone indicated intermediate water. The company has just staked location for another well in this field. F. E. Fairfield, Richfield Oil Corp. and Texas Co. are making preparations to drill a joint test about 1 mile south of the eastern extension of the Montebello field on the Gregg property in section 8-2-11. This wildcat will be on a lease block comprising about 350 acres. The area has been worked over for several weeks.

Rosecrans

Universal Consolidated Oil Co. has completed another good well on the Trust property in the Rosecrans field and preparations are under way to start a new well at once. Universal's new producer is No. 4 Trust and it was completed flowing 1,820 bbls. of 33.2 gravity oil and 980,000 feet of gas from the O'Dea zone at 7,880 feet. This, the third excellent well on the Trust lease, is flowing through a 46/64-inch bean under a tubing pressure of 250 pounds and a casing pressure of 300 pounds. Three additional potential producers are scheduled for completion within 10 days and will be replaced by a like number of new wells. Included in this group of potential producers are Barnsdall Oil Co. No. 9 Rosecrans, Superior Oil Co. No. 9 Maxwell and Union Oil Co. No. 21 Rosecrans and No. 22 Rosecrans. Barnsdall Oil Co. has concluded a deal with Exeter Oil Co. whereby the former will take over the Higgins and Wanka leases for development. Barnsdall Oil Co. will bear the expense of drilling and after recovering the cost of development will share fifty-fifty with Exeter in production. The Higgins and Wanka leases are east of acreage being developed by Superior Oil Co. Both leases are expected to be found productive in the deep O'Dea zone as the upper horizon is still producing a small quantity of oil. The Higgins and Wanka leases are east of Superior's No. 8 Maxwell and No. 1 Callender both of which have been completed flowing around 350 bbls. per day from the lower zone.

Canal

The Canal field of Kern County in San Joaquin Basin yielded two good wells when No. 7-3 Kern County Land of Ohio Oil Co. was finished flowing 2,580 bbls. of 36.9 gravity oil and 1,700,000 feet of gas and Shell Oil Co. No. 52-14-A Kern County Land was brought in flowing 3,293 bbls. of 36.3 gravity and 3,075,000 feet of gas. The former was bottomed at 8,260 feet and finished with 273 feet of 4¾-inch liner including 222 feet of perforated landed on bottom. It was brought in flowing through a 1-inch bean and shows a tubing pressure of 310 pounds and a casing pressure of 450 pounds. The crew has been moved to No. 8-E Kern County Land in the same section. Shell No. 52-14-A Kern County Land was bottomed at 8,350 feet and finished with 258 feet of 4¾-inch liner including perforations at 8,129-49 feet, 8,169-8,238 feet and at 8,260-8,347 feet and 8,081 feet of 2½-inch tubing To take the place of No. 52-14-A, Shell has erected a new rig for No. 45-14-A in the same section. Standard Oil Co. has about completed rigging up rotary tools on No. 1 Rio Bravo fee in this field and should begin drilling within a few days.

East Coalinga

Two of the several wells drilling in the Guijarral Hills section of the East Coalinga field should be ready for production tests in two weeks and should be followed within a short time by several other potential producers. Petroleum Securities has No. 88 Grimes in section 12-20-15 going ahead at 6,250 feet with probable completion depth at about 6,800 feet. Top of the Kreyenhagen was logged at 5,492 feet. Superior Oil Co. No. 1 Hight in section 8-20-16 has passed the 6,000-foot level and should reach the depth at which production is expected within a week. Universal Consolidated Oil Co. No. 1 Hintz in section 12-20-15 is at 5,900 feet in a gray sand. Tide Water Associated Oil Co. has changed location of its first test on the Guardian property and instead of being designated as No. 33 will be No. 66. These numbers indicate the position of each on the property and the latter will be spudded in within a few days. No. 2 Gatchell of Petroleum Securities, the deep zone discovery well, has been beaned back to 515 bbls. and is still producing 32.9 gravity oil.

Rio Bravo

Several potential producers are nearing completion in the Rio Bravo field of Kern County. Union Oil Co. should add one as No. 4-34 Kern County Land in section 34-28-25 is within a few hundred feet of completion. General Petroleum Corp. should add its second completion as No. 1 Wagoner in section 35-28-25 is again making hole after being delayed for several months because of mechanical trouble. This well is going ahead at 11,125 feet. Getty Oil Co. should also finish a well as No. 2 Ramsey is rotating at 11,164 feet within a few hundred feet of completion depth. Superior Oil Co., which picked up a deep zone in No. 1 Helbling, an outpost in the extreme southeastern end of the field, is again drilling following a test of the zone which proved it to be wet and barren of oil. This hole is now down 12,596 feet with the bit making new hole. Superior No. 3 Geissinger in section 35-28-25 is being reconditioned following a test which indicated water intrusion in both the bottom of the hole and around the shoe of the water string. Drilling operations in the Rio Bravo field will be slowed down during the next six months as operators have shown an inclination to take advantage of the maximum time allowed under leases which usually provide a well must be started within 90 days after each completion. It is believed all operators will take advantage of the 90-day clause to reduce the capital necessary to carry on development work.

Kettleman Hills

Standard Oil Co. completed No. 78-1-P in section 1-22-17 in the Kettleman North Dome field this week, flowing 1,026 bbls. of 34.1 gravity oil and 5 bbls. of water

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 29 Total this week	July 29 Daily average	July 22 Total last week	July 22 Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	58,912	8,416	404,467	.....
Diesel and gas oil	.....	.....	.....	.....	176,726	.....
Gasoline	.....	.....	72,116	10,302	1,917,019	2,490,819
Kerosene	.....	.....	.....	.....	199,453	256,032
Foreign exports—						
Crude oil	172,806	24,687	443,315	63,331	13,993,315	8,320,576
Fuel oil	112,176	16,025	145,838	20,834	5,150,332	8,544,403
Diesel and gas oil	54,405	7,772	242,295	34,614	3,533,939	4,369,005
Gasoline	.....	.....	174,650	24,951	4,209,825	4,720,033
Kerosene	3,748	535	3,214	459	604,982	1,411,869
Lubricants	.....	.....	.....	.....	48,370	.....
Other unfinished oil	.....	.....	.....	.....	.....	847,290
Coastwise-domestic—						
Crude oil	355,954	50,851	155,411	22,202	6,830,061	2,385,116
Fuel oil	202,381	28,912	200,126	28,589	6,127,831	8,598,142
Diesel and gas oil	.....	.....	48,406	6,915	946,940	1,233,794
Gasoline	361,086	51,584	373,611	53,373	9,036,320	8,842,826
Kerosene	.....	.....	2,012	287	147,125	244,885

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	178,662	152,932
Gasoline	.....	.....	.....	.....	9,499	25,778
Asphalt	71,838	10,263	.....	.....	418,700	205,319
Lubricants	3,240	463	.....	.....	16,905	12,857
Foreign exports—						
Crude oil	76,797	10,971	99,427	14,204	3,190,229	1,687,329
Fuel oil	127,043	18,149	67,497	9,462	1,339,961	1,233,314
Diesel and gas oil	109,202	15,600	263,101	37,586	1,605,936	1,708,657
Gasoline	349,184	49,883	.....	.....	3,501,733	2,887,180
Kerosene	16,017	2,288	.....	.....	471,575	497,267
Asphalt	.....	.....	.....	.....	56,258	.....
Lubricants	.....	.....	81,352	11,622	324,312	325,615
Coastwise-domestic—						
Fuel oil	63,412	9,059	65,340	9,334	3,618,666	3,756,353
Diesel and gas oil	6,270	896	16,191	2,313	844,330	606,940
Gasoline	143,914	20,559	123,972	17,710	4,292,069	2,686,680
Kerosene	.....	.....	.....	.....	300,839	162,675

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Monebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Orcutt*
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	...	...	...	$.80	$.76	$.76	$.77	$.78	...	...	$.70	$.70	$.70	...	...	$.70	...
15-15.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	...
16-16.9	.80	.79	.74	.78	.79	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	...	...	...	.80	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	...	...	...	.82	.76	.76	.77	.78	...	...	.70	.70	.70	...	...	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	...	...	...	.85	.76	.78	.77	.78	...	$.70	.74	.74	.71	$.70	...	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	...	...	...	.88	.78	.82	.77	.80	...	.70	.78	.78	.72	.70	...	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	...	...	...	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	...	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	...	...	...	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	...	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	...	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	...	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.85	.81	...	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	...	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	...	1.02	.95	...	.89	.99	.86	.88	1.01	.98	.90	.83	...	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	...	1.05	.98	...	.92	1.03	.90	.91	1.06	1.02	...	...	...	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	...	1.10	1.03	.88	...	...	1.02	...	.96	1.06	.95	.95	1.10	1.06	...	...	...	.95	...
28-28.9	1.14	1.10	.90	1.14	1.15	...	1.14	1.07	.90	...	...	1.06	...	.99	1.10	.99	.99	1.15	1.10	...	...	...	.97	...
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	...	...	1.09	...	1.03	1.14	1.03	1.02	1.20	1.14	...	...	...	.99	...
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	...	...	...	1.07	1.17	1.08	1.06	1.25	1.18	...	...	...	1.01	...
31-31.9	...	...	...	...	1.24	Pipe	1.24	1.22	.97	Ship	...	...	...	1.11	1.21	1.12	1.09	1.29	...	...	...	...	...	...
32-32.9	...	...	...	...	1.27	Line	1.27	1.27	1.00	...	...	...	...	1.14	1.25	1.16	1.13	1.34	...	...	...	...	...	...
33-33.9	...	...	...	...	...	...	...	1.32	...	$1.28	...	...	...	1.18	1.28	1.20	1.17	1.38	...	...	...	$1.19	...	...
34-34.9	...	...	...	...	...	...	...	1.37	...	1.32	...	...	...	1.22	1.32	1.25	1.20	...	...	...	...	1.23	...	...
35-35.9	...	...	...	...	...	...	...	1.42	...	1.35	...	...	...	1.25	...	1.29	...	...	...	...	...	1.27	...	...
36-36.9	...	...	...	...	...	...	...	1.46	...	1.39	...	...	...	1.29	...	1.33	...	...	...	...	...	1.31	...	...
37-37.9	...	...	...	...	...	...	...	1.51	...	1.43	...	...	...	1.32	...	1.37	...	...	...	...	...	1.35	...	...
38-38.9	...	...	...	...	...	...	...	1.56	...	...	...	...	...	1.36	...	1.42	...	...	...	...	...	1.39	...	...
39-39.9	...	...	...	...	...	...	...	1.61	...	...	...	...	...	1.40	...	...	...	...	...	...	...	1.43	...	...
40-40.9	...	...	...	...	...	...	...	1.66	...	...	...	...	...	1.43	...	...	...	...	...	...	...	...	...	...

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over. By Standard Oil Co., effective October 15: El Segundo, 14 to 18.9 degrees, 80 cents; 19-19.9, 82 cents cents; 20-20.9, 85 cents; 21-21.9, 88 cents; 22-22.9, 92 cents; 23-23.9, 95 cents; 24-24.9, 99 cents; 25-25.9, $1.03; 26-26.9, $1.06; 27-27.9, $1.10; 28-28.9, $1.14; 2[illegible] 29.9, $1.17; 30-30.9, $1.21. Wilmington, 14 to 16.9, 75 cents; 17-17.9, 77 cents; 18-18.9, 79 cents; from 19 degrees upward, prices same as Signal Hill.

from the Temblor with bottom of the hole at 8,040 feet. The hole was finished with 586 feet of 5¾-inch liner including 153 feet of perforated landed at 8,038 feet and cemented through perforations at 7,885 feet. Standard's last Eocene completion, No. 46-13-H in section 13-21-16, is flowing 140 bbls. of 29.3 gravity oil and 80,000 feet of gas from 10,836 feet. Both Standard and Kettleman North Dome Association are starting wells to take the place of recent completions and to keep the crews busy as each has several wells scheduled for completion within 30 days. The middle dome of Kettleman Hills appears to have come into the picture again following a dormancy of several years and there is a possibility a new well will be started within 30 days. This structure failed to come up to expectations so far as Temblor production is concerned and one operator is considering the advisability of carrying a well into the Eocene.

Coastal Area

Union Oil Co. has completed No. 2 Wheat in the Santa Maria Valley field pumping 180 bbls. of 14.5 gravity oil from 3,945 feet. The formation in the bottom of the hole was very tight and the company resorted to a rather infrequent practice of shooting the hole. A total of 125 quarts was exploded. This well was finished with 269 feet of 6⅝-inch liner including 246 feet of perforated. Shell Oil Co. and Tide Water Associated Oil Co. are expected to complete wells in the Ventura Avenue field within 30 days and both are making preparations to maintain normal drilling during the remainder of the year. Up in the Midway-Sunset field of Kern County Midway Peerless Oil Co. has completed No. 17 in section 15-31-22 pumping 30 bbls. of 14.3 gravity cutting 7 per cent. This new producer, which is representative of the zone at this point, was bottomed at 1,207 feet and finished with 372 feet of 6⅝-inch liner including 334 feet of perforated landed on bottom. This zone has been producing for a number of years and is rather well depleted due to heavy withdrawals. The company is considering drilling another well in the same section but no definite decision has been reached. Drilling operations in this field have been gradually slowing up and a further decline will be made later this year.

Eastern Fields

(Continued from Page 81)

drill H. A. Gainer, L. E. Ellyson surface, DeKalb district, elevation 938 feet.

In Kanawha County, Pure Oil Co. will drill No. 29 Williams Coal Co., in Cabin Creek district. In Pleasants County, B. C. Deem, Jr., has a location on his own tract, Jefferson district, elevation 976 feet.

In Ritchie County, Schultz Oil Co. has a location for No. 3 T. C. Hammett heirs in Grant district, elevation 989.97 feet. In Roane County, Clendenin Gas Co. has a location for E. E. Fields in Harper district, elevation 720 feet.

In Wayne County, Woodall and Jackson Gas Co. have a location for a second test on the Sarah Sansom farm in Union district, elevation 750 feet. In Wetzel County, due to the new shallow excitement, C. B. Lewis and others have a rig on the J. Ebert 45 acres in Proctor district; Carnegie Natural Gas Co. on the Robert Simmons; Manufacturers Light & Heat Co. on the W. O. Kincaid; Hazlett Brothers and Conley on the No. 3 Lane Mason, and J. J. McIntire on the C. C. Parsons, elevation 1,142 feet.

June Marked Turn in Recession For Petroleum Industry

Manufacturers' sales of petroleum products during the first half of 1938 were 5.6 per cent below the first six months of 1937, according to a special analysis of sales data made by the Marketing Research Division of the Bureau of Foreign and Domestic Commerce. The 16 manufacturers of petroleum products who reported to the bureau had sales aggregating $202,249,000 for the first six months of 1938.

The report reveals both the extent of the current recession on the petroleum industry and the beginning of the business upswing. It shows a drop of 6.3 per cent in sales in June 1938 over the same month in 1937, indicative of the extent to which the petroleum manufacturers were affected by the depression, and it reveals an increase in sales of 3.3 per cent in June over the month of May, showing the beginning of the swing back to normalcy.

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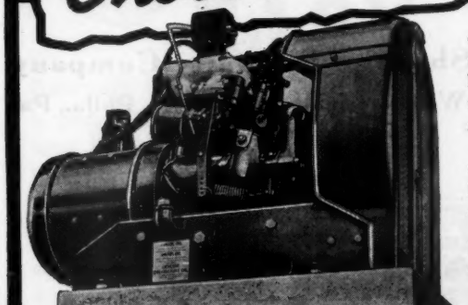

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Kansas Fields

(Continued from Page 94)

R. H. Shields No. 1 Rogg, C E half W half NW section 9-15-13w, also was completed as an extensioner to the Coralena pool. It found Lansing lime at 2,980 feet, had pay at 3,000 feet, was bottomed at 3,033 feet, was acidized and pumped 299 bbls. of oil the first four hours, 98 bbls. the next four hours and was rated potentially at 588 bbls. daily. Gravity of the oil was 37.6 degrees.

Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 3 Wineteer, SW NW SE section 19-13-14w, topped Arbuckle lime at 3,277 feet, total depth 3,284 feet. It swabbed 184 bbls. of oil in the first four hours, later pumped 333 bbls. in eight hours and made potential of 966 bbls.

Rice County

Shell Petroleum Corp. No. 3 Zajic, SW NW NE section 13-18-8w, Geneseo district, Rice County, found Arbuckle lime at 3,166 feet, was bottomed at 3,226 feet, acidized with 2,000 gallons and made potential of 2,650 bbls. of oil.

Continental Oil Co. and others No. 7 Lansing, SW SW SE section 25-18-8w, Geneseo area, pumped 368 bbls. of oil the first four hours after plugging back, 311 bbls. the next four hours and made potential of 1,866 bbls. It topped Arbuckle lime at 3,130 feet, total depth 3,208 feet, was acidized and pumped 365 bbls. of oil and 181 bbls. of water in seven hours, and was plugged back to 3,178 feet. No water was showing on completion test.

Sinclair Prairie Oil Co. No. 8 Wallace, NW NE SW section 29-19-9w, Chase area, found Arbuckle lime at 3,220 feet, total depth 3,241 feet, was acidized with 1,000 and 3,000 gallons, swabbed 78 bbls. of oil the first 24 hours and 100 bbls. the next 24 hours.

Barton County

One of the larger producers completed the past week in Kansas was Phillips Petroleum Co. No. 3 McClanahan, CNL N half SE section 7-16-13w, Trapp district, Barton County. It found Arbuckle lime at 3,355 feet, was bottomed at 3,561 feet and was acidized. It pumped 345 bbls. of oil the first four hours, 366 bbls. the next four hours and made potential of 2,076 bbls.

Shell Petroleum Corp. No. 3 Hoffman A, NE NE SW section 7-16-13w, was acidized with 2,000 and 5,000 gallons, was shot and swabbed 130 bbls. of oil the first six hours. On completion test it pumped 107 bbls. of oil in four hours, 94 bbls. the next four hours and made potential of 565 bbls. Arbuckle lime was topped at 3,345 feet, total depth 3,367 feet.

Sinclair Prairie Oil Co. No. 1 McLean, SE NE NE section 25-17-11w, Bloomer district, had Arbuckle lime at 3,296 feet, was bottomed at 3,304 feet, acidized with 5,000 gallons, pumped 193 bbls. of oil the first four hours, 157 bbls. the next four hours and made potential of 942 bbls.

Ellis County

Ryan Consolidated Oil Co. No. 4 Bemis C, SE NE SW section 21-11-17w, Bemis field, Ellis County, found Arbuckle lime at 3,406 feet, total depth 3,412 feet, pumped 466 bbls. of oil the first four hours, 467 bbls. the next four hours and made potential of 2,797 bbls. of oil, with no water, thus rating as one of the week's larger producers.

Stafford County

E. H. Moore, Inc., No. 1 Johnson, NW SW SW section 13-24-11w, Zenith pool, Stafford County, was completed in Misener sand at 3,802-22 feet, total depth. It flowed 576 bbls. of oil the first four hours, 537 bbls. the next four hours, flowing through tubing, and made potential of 3,223 bbls. of oil, with 1,570,000 feet of gas, and was the largest new producer of the week.

McPherson County

Davis & Miller and others No. 1 Becker, NE NE NW section 2-20-2w, Ritz-Canton field, McPherson County, was treated with 2,000 gallons of acid and made potential of 213 bbls. of oil, pumping and flowing. Chat pay was topped at 2,897 feet and it was bottomed at 2,949 feet. It extended the pool one-fourth mile west at the south end.

Cowley County

B. B. Blair No. 1 Dunlap, SW NW NE section 21-32-5e, extended the Frog Hollow pool of Cowley County one-half mile eastward and one-fourth mile northward. Bartlesville sand was topped at 3,029 feet, pay at 3,042 feet, total depth 3,062½ feet in sand. It was completed for potential of 352 bbls. of oil, of estimated gravity of 40 degrees.

Arthur Brewer No. 1-A Blakely, NE NE SE section 31-31-6, Burden area, had Bartlesville sand at 2,924 feet, water intruded and it was abandoned at total depth of 2,998 feet.

Greenwood County

C. C. Whittiker No. 1 Shoemaker, NE NW NE section 17-28-11, Severy area, Greenwood County, had Lansing lime at 1,203 feet, total depth 1,230 feet, and pumped 10 bbls. of oil and 20 bbls. of water in 24 hours.

Ness County

Continental Oil Co. No. 1 Kuehn, NW SW SE section 5-18-25w, Aldrich pool, Ness County, topped Mississippi lime at 4,304 feet, was bottomed at 4,335 feet, water intruded, and it was plugged back to 4,282 feet and recemented 6-inch at 4,305 feet. It pumped 129 bbls. of oil the first four hours, same amount the next four hours and made potential of 773 bbls. of oil, with no water.

Reno County

Carter Oil Co. No. 1 Hogan, C W half SE SW section 19-24-4w, Burrton field, Reno County, was drilled and completed as a salt water disposal well at 550 feet, total depth.

A Nebraska Failure

Nebraska Oil Corp. No. 1 Spencer, SE cor. section 8-9n-21w, wildcat in Dawson County, Nebraska, was dry and abandoned at total depth of 2,500 feet in red beds.

Gulf Coast Fields

(Continued from Page 84)

production in the Reels and Trobough Survey. To the southwest about 1½ miles, Sam G. Harrison is drilling below 2,700 feet on No. 1 Lafferty in the John Brown

Since World War Days . . .

The Sharples Petroleum Research Plant will soon be "of age"—21 years. When it was built, "low cold test bright stock" meant a pour point of 45°F. Do you remember? First 25°F., later 0°F., cold test bright stocks were born in this Research Plant—and later, Sharples centrifugal acid treating of lubricating stocks and the treating of white oils with fuming acid—and Barisol dewaxing for crystalline stocks—and a dozen other applications. And this is important—the keen magician who started this Research Plant still directs its destinies. That means something to one tired of working with amateurs.

The Sharples Specialty Company
2352 Westmoreland St. Phila., Pa.

Survey. Within recent weeks, several nice producers have been completed in the Miocene sand at 3,500 feet.

In the same county and located about 1½ miles northwest of production in the Friendswood field, Humble Oil & Refining Co. No. 1 Gavin, A. M. Gentry Survey, has been abandoned in salt water sand at 6,384 feet. This well is about 3,800 feet southwest of the same company's No. 1 Houston Development Co., a recent dry hole.

West of the South Houston field, Harris County, Commerce Oil Co. No. 1 Meadowbrooks Development Co. was abandoned at 8,501 feet after running an electrical survey. The test is located about a mile from the field and is one of the deepest tests drilled in the area.

One and a half miles northeast of the Fairbanks field, Harris County, Union Producing Co. No. 1 Goodykoontz, perforated casing at 7,210-15 feet and swabbed 8 bbls. of fluid per hour of which 60 per cent was oil and the balance salt water. The hole has been plugged back to 7,190 feet and another test was scheduled to be made. This well has been in the process of completion for several weeks and no less than six production tests have been made below 7,200 feet to the total depth at 7,617 feet.

Stanolind Oil & Gas Co.'s deep test, No. 1 Freeman, located in the Katy gas field, Waller County, has been plugged back from a depth of 11,080 feet to 7,400 feet, preparatory to completing for a gas well. The casing was perforated at 7,365-85 feet and 2½-inch tubing is being run for completion. Location is in the H.&T.C. Survey No. 99.

TEXAS GULF COAST COMPLETIONS

Brazoria County

Danbury field: Rowan Drilling Co. and Shell Petroleum Corp. No. 6 Jameson, sand 2,125-41 feet, 157 bbls., 12 hours, quarter-inch choke. Hastings field: Humble Oil & Refining Co. No. 10 W. H. Schindler, sand 5,927-6,055 feet, 571 bbls., quarter-inch choke.

Fort Bend County

Thompson field: Gulf Oil Corp.-Humble Oil & Refining Co. No. 14 A. E. Meyers, sand 3,142-72 feet, 86 bbls., eighth-inch choke. Humble Oil & Refining Co. No. 33-B Lockwood-Sharpe, 3,596 feet, abandoned.

Galveston County

Dickinson field: Humble Oil & Refining Co. No. 1-D M. Stewart, 8,838 feet, perforated casing 8,577-92 feet, 809 bbls., quarter-inch choke.

Hardin County

Silsbee field: Republic Production Co. No. 2 Winters, sand 6,910-20 feet, 544 bbls., quarter-inch choke.

Harris County

Eureka field: Jack Frazier No. 3 Varner Realty Co., perforated casing 7,680-7,702 feet, 490 bbls., quarter-inch choke. Means and McGehee No. 1-B Lackner, sand 7,706-40 feet, 632 bbls., quarter-inch choke. Fairbanks field: Skelly Oil Co. No. 1 Emmett, perforated casing 6,833½-37½ feet, 149 bbls., eighth-inch choke. Smith and Ownby Drilling Co. No. 1 Stephens, perforated casing 6,849-53 feet, 671 bbls., quarter-inch choke. Williams and Thompson No. 1 Marietta, perforated casing 6,824-34 feet, 615 bbls., quarter-inch choke. Friendswood field: Humble Oil & Refining Co. No. 15 Beamer, sand 5,762-6,055 feet, 600 bbls., quarter-inch choke. Humble Oil & Refining Co. No. 16 Beamer, sand 5,738-6,043 feet, 590 bbls., quarter-inch choke. Humble Oil & Refining Co. No. 1 Gavin, 6,384 feet, abandoned. Tomball field: Humble Oil & Refining Co. No. 2 Michel, perforated casing 5,512-17 feet, 2,440,000 feet of gas, quarter-inch choke. Humble Oil & Refining Co. No. 1-B K. H. Muller, perforated casing 5,545-51 feet, 294 bbls., quarter-inch choke.

Liberty County

Hardin field: Humble Oil & Refining Co. No. 2-A Partlow, 7,640 feet, 527 bbls., quarter-inch choke. Glenn H. McCarthy No. 1 W. J. Green, perforated casing 7,548-55 feet, 129 bbls., 13/64-inch choke. Woodley Petroleum Co. No. 1 Lynott and Buffam, 7,905 feet, abandoned.

BIRK CITY

(Continued from Page 70)

Cane Run School district: Sunflower Oil & Gas Co. No. 1 P. F. Howard, rigging up.

Hancock County, Cabot district, H. C. Hume, trustee, No. 3 William DeWhitt, spudding in.

Easton district: Joseph B. Mayers and others No 14 Jess Stewart, spudding in.

Henderson County, Birk City district: W. E. Hupp and others No. 2 O. L. Boswell, east tract, drilling at 200 feet in Mississippi lime, no saturation. Aetna Oil Service Corp. No. 1 C. A. Dempewolf, 43 acres, swabbed 400 bbls. in 19 hours. W. H. Albaugh and others No. 1 Harry Gregg, spudding in. W. E. Hupp and others No. 1 K. A. Jones, 189 acres, McClosky saturation was found at 1,881-98 feet; good show in core; to drill in later. Aetna Oil Service Corp. No. 1 Monroe Pitts, estimated at 200 bbls. per day, total depth 1,890 feet.

McLean County, South Livermore district: Roy Mace and others No. 3 J. E. Howell, 35-acre tract, made 40 bbls.; Jett sand from 1,133-56 feet; total depth 1,158 feet.

Muhlenberg County, Paradise district: South Penn Oil Co. No. 3 Rogers Crescent Coal Co., deep test, was drilling at 3,051 feet.

Ohio County, Taffy district: Rex Pyramid Oil Co. No. 18 Scott Ambrose was drilling at 100 feet. Western Kentucky Petroleum Co. No. 39 Mary Elmore was drilling at 400 feet.

Cabot district: Kentucky Natural Gas Co. No. 1 H. E. Beatty produced 998,000 feet of gas.

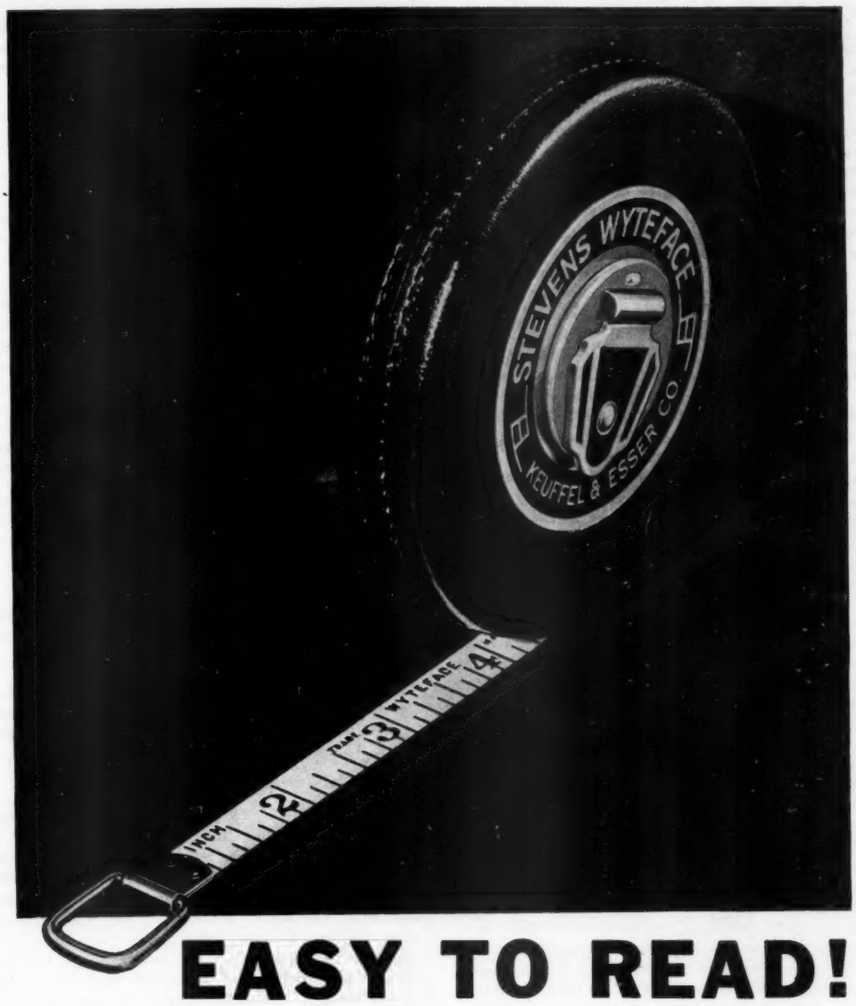
Fordsville district: A. J. Stewart and others No. 7 W. R. Wells made 5 bbls.; Jett sand. E. Dehart and others No. 4 Clark heirs was a dry hole.

Adaburg district: Nollem Oil & Gas Co. No. 9 Vincent Crowe was spudding in.

Ralph district: Joe Hare and others No. 11 William Howard, 139 acres, was drilling at 500 feet.

Friendship Church district: Petroleum Extraction Co. and others No. 3 E. M. Royal was drilling at 175 feet.

Webster County, Sebree district: I. B. Browning and others No. 6 J. R. Ramsey, deep test, was drilling at 3,123 feet, and expect to drill in the Cniferous this week.



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West, Central and Panhandle Texas

By
D. H. STORMONT

First Deep Test in Panhandle Outside of the Granite Ridge

FORT WORTH, Tex., Aug. 8.—The West Texas district passed another very inactive period last week while the West Central area showed a slight increase in activity. The Panhandle area of Texas is centering considerable attention as the first deep test outside of the Granite Ridge of the Panhandle gas field is drilling toward its contract depth of 8,000 feet.

Permian Basin Area

Andrews County got two outpost locations the past week. One was to the Means pool in the northeastern corner of the county and the other to the Fuhrman pool in the central part of the county. Expected to be the largest well completed in any pool in Andrews County, Humble Oil & Refining Co. No. 47 Means, one-fourth mile east of production in the Means pool, flowed 4,475 bbls. of oil in 19 hours and 45 minutes on railroad commission gauge, after two-stage acid treatment at total depth of 4,510 feet. Derrick was being built for Fuhrman Oil Co. No. 1 Ashton, mile west outpost to the Fuhrman pool. Location is in section 12, Block A-42, P.S.L. Survey.

Two cores showing oil were recovered by Hockley County's important Slaughter pool extension well being drilled by Stanolind Oil & Gas Co. northwest of the pool. First show of oil and gas had been reported in a core from 4,957-62 feet and later in the week another core from 4,974-77 feet showed an increase in oil. The test is coring ahead below 4,980 feet with about 2,000 feet of oil in the hole.

In Crane County, a mile and a quarter southeast extension to the area recently opened by Magnolia Petroleum Co. on the University of Texas lands in the eastern part of the county, seemed assured when Magnolia Petroleum Co. No. 1-15 State was bottomed at 3,327 feet with 1,000 feet of oil in the hole. Operators were preparing to make a swabbing test. The deep producing Sand Hills area of central Crane County received a new half-mile southeast outpost when Gulf Oil Corp. staked No. 9 Waddell about one-half mile southeast of No. 7 Waddell, a 6,000-barrel producer.

WEST CENTRAL TEXAS

Wildcat development in practically all of the West Central Texas counties featured the activity in the area over the past week.

Prospects of a third producer for the Haskell County Pardue pool appeared in J. W. McMillen No. 2 Pardue. It is an offset to the discovery well and is in the M. Collum Survey No. 4. The test topped the Adams Branch lime from which the pool is producing at 2,845 feet and recovered saturation in a core from 3,849 feet to 3,851 feet, total depth. Operators plan to ream the hole and set 6-inch casing for completion. Texas Pacific Coal & Oil Co. entered the area through the staking of No. 1 R. L. Livengood, section 8, Block 1, H.&T.C. Survey. Test is on a 43½-acre tract about a mile northwest of the discovery well. The northwest corner of Haskell County received a wildcat location when Gilmore Oil Co. staked a test in section 46, Alford Survey, 7 miles west of O'Brien.

In Young County, the wildcat drilled by Union Producing Co., first thought to have opened a new pool, showed a considerable production decline last week and after retreatment with acid failed to stimulate the flow, it was drilling deeper. The test is No. 1 Corley-Ramsey, about 3 miles southeast of Graham, and had been estimated for 35 bbls. daily from a depth of 3,877 feet. It is now drilling below 4,250 feet.

Stonewall County's first commercial producer, Stonewall Oil Co. No. 1 H. T. Carlisle, will be completed at its present depth of 5,176 feet. After retreatment with acid the wildcat showed an increase in production and is now estimated for 300 bbls. per day from pay section from 5,169 feet to total depth. The well is in section 293, Block D, H.&T.C. Survey, in the northwestern part of the county.

Coleman County's important wildcat which last week gave indications of opening a new pool in the county, is reported to have made 250 bbls. of oil in one hour and five minutes following a 50-quart shot in the saturated section from 3,622-50 feet. The well is 35 miles south of Abilene and is in section 23, Y.&N.O. Survey.

In Jones County, Grisham-Hunter No. 2 Appling, wildcat in the northwestern part of the county, in section 32, B.B.B.&C. Survey, has cemented casing at 2,350 feet after encountering saturation at that depth. The test is 330 feet east of the same firm's No. 1 Appling, which encountered oil estimated at 75 bbls. per day from 2,640-50 feet. The test, however was drilled ahead into water and later plugged.

Brown County got an Ellenburger test when Brown-Tex Oil Co. staked No. 1 C. Browder, E.T.R.R. Survey. The test was originally drilled to 1,040 feet by A. W. Whatley and was taken over by the present company with intentions of testing the Caddo and Ranger limes and down to the Ellenburger of Lower Ordovician, expected around 2,500 feet.

Eastern Stephens County received its first deep wildcat in several months when G. E. Fagg staked No. 1 Richardson in section 5-3, S.P. Survey. The well is contracted for 4,000 feet.

WEST TEXAS FIELD COMPLETIONS

(24-hour tests)

Andrews County

Montecilo Oil Corp. No. 1 Cowden, 4,168-4,220 feet, 635 bbls. Barnsdall No. 2 Ford, 4,310-4,460 feet, 1,555 bbls.

Crane County

Gulf Oil Corp. No. 8 Waddell, dry and abandoned at 6,116 feet. Sinclair Prairie Oil Co. No. 3-27 University, 3,554-80 feet, 1,216 bbls.

Ector County

Blackstock Oil Co. No. 3 T. & P. Land Trust, 4,005-4,170 feet, 3,111 bbls. Broderick & Calvert No. 2 Cowden, 4,056-4,265 feet, 950 bbls. Humble Oil & Refining Co. No. 170 Scarbauer, 4,162-4,190 feet, 99 bbls. Landreth Oil No. 2-B Johnson, 4,000-4,180 feet, 1,273 bbls. Oil Well Drilling Co. No. 1-B Connell, 3,409-3,710 feet, 154 bbls. Phillips Petroleum Co. No. 5 Kloch, 4,180-4,221 feet, 1,360 bbls. Sunray Oil No. 6 H. C. Foster, 4,015-4,165 feet, 1,072 bbls. Texas Co. No. 4-B Parker, 4,055-4,225 feet, 814 bbls. T. & P. Land Trust No. 3 Foster, 4,000-4,175 feet, 1,297 bbls. L. H. Wentz No. 5 Paul Moss, 4,006-4,157 feet, 2,528 bbls.

Gaines County

Riddle & Warr No. 1 Brown, dry and abandoned at 5,541 feet.

Hockley County

Gulf Oil Corp. No. 1 Mallet Land & Cattle Co., dry and abandoned at 5,125 feet.

Howard County

Magnolia Petroleum Co. No. 6 Human-Chalk, 2,775-2,470 feet, 1,470 bbls.; No. 1 Scott, 2,854-67 feet, 1,227 bbls.

Pecos County

M. H. Black No. 1-B Pecos Valley, 1,556-84 feet, 238 bbls. Superior Oil Co. No. 1 Brandenburg, 2,284-2,315 feet, 42 bbls.

Tom Green County

Southern Cross No. 1 Upton & Upton, temporarily abandoned location. M. R. Sturad No. 1 Garlitz, abandoned 784 feet.

Upton County

Brown-Hancock-Hines No. 4-C Baker, 2,164-2,342 feet, 1,143 bbls. Gulf Oil Corp. No. 33 Crier-McElroy, 2,652-2,942 feet, 805 bbls. Texas Co. No. 2-A University Land, 2,291-2,375 feet, 496 bbls.

Ward County

Gulf Oil Corp. No. 98 O'Brien, 2,591-2,760 feet, 185 bbls. Magnolia Petroleum Co. No. 6-46 Sealy, 2,755-2,860 feet, 475 bbls. Sinclair Prairie No. 14 Archenhold, 2,840-3,025 feet, 402 bbls.

Winkler County

Humble Oil & Refining Co. No. 8-D Walton, 2,776-3,000 feet, 609 bbls. Magnolia Petroleum Co. No. 166 Walton, 2,840-2,923 feet, 2,397 bbls.

Yoakum County

Shell Petroleum Corp. No. 2 Lowe, 4,880-5,045 feet, 609 bbls. Skelly Oil Co. No. 1 R. M. Kendrick, 4,925-5,009 feet, 316 bbls.; No. 1 C. A. Thomas, 4,947-5,035 feet, 456 bbls.

PANHANDLE FIELD COMPLETIONS

Hutchinson County

W. W. Holmes No. 6 Lyall, 2,680-2,721 feet, 485 bbls. Ora Hughey No. 1 Whittenburg, 3,025-75 feet, 512 bbls. Phillips Petroleum Co. No. 17 J. J. Perkins, 3,035-45 feet, 307 bbls.; No. 6 R. E. Thompson, 3,136-3,219 feet, 527 bbls. Smith Brothers Refining Co. No. 4 Umphres, 3,100-43 feet, 741 bbls. Harry Stekoll No. 10 Perkins-Martin, 3,010-46 feet, 451 bbls. Southern Petroleum Exploration Co. No. 6 Haile, 3,025-40 feet, 208 bbls. Texas Co. No. 16 Lewis, 2,070-3,055 feet, 581 bbls.

Carson County

Magnolia Petroleum Co. No. 43 fee, 3,105-65 feet, 357 bbls. Cree & Hoover No. 1 Cunningham, 8,083,000 feet of gas.

Moore County

Phillips Petroleum Co. No. 1 Makieg, 65,314,000 feet of gas.

Accidental Deaths Are Low In the Petroleum Industry

Accidental deaths in the petroleum industry in 1937 stood at only half of the nation's general accidental death rate, according to a report of the American Petroleum Institute's Department of Accident Prevention. Reports covering 324,956 workers in 131 petroleum companies show a fatality rate of 36.9 deaths per 100,000 persons, as compared with the national accidental death rate of 82 fatalities per 100,000 persons in 1937, reported by the National Safety Council.

According to the study of the 101 fatalities embraced in the report, 47 per cent of the deaths were caused by falls, falling objects, and other miscellaneous causes; 25 per cent involved trucks or automobiles, and only 17 per cent were caused by fires or explosions. Electrical deaths increased during 1937 and stood at 9 per cent, as compared with 3 per cent for 1936. Asphyxiation caused 3 per cent of the fatalities.

SMALL TRACK PROBLEMS

(Continued from Page 41)

this type of unnecessary well that will receive attention in this paper. The elimination or imposition of restrictions upon the drilling of wells of this type primarily presents a legal problem, although it also involves certain questions of policy.

The starting point of all difficulties in maintaining the spacing pattern provided for in the spacing rules for a particular oil field is the small tract which does not contain enough acreage to afford a location for one well under the spacing rules. The adoption of proper regulations controlling drilling upon these small tracts presents the basic problem upon which the success or failure of spacing regulations must ultimately depend.

The primarily legal problem is the formulation of a regulation which will insure to the owner of the small tract a reasonable opportunity to realize the value of the recoverable oil beneath his land, and to accomplish this in such a way that no confiscation of his property, or of the property of neighboring landowners, will result. It may be that in our Texas statutes there is no affirmative authorization to our administrative agency to do anything other than to prevent the waste of oil, yet under our constitution the taking of property without due process of law is forbidden.

Any exercise of the police power for the purpose of preventing waste which unreasonably interferes with private property rights in a manner not necessary for the accomplishment of the public purpose for which the police power is exerted would clearly come within the ban of this constitutional prohibition. Hence, in a negative way the legislature and the administrative agency are both compelled to respect the correlative private rights of the landowners over a common oil reservoir. In exercising the police power to prevent waste, therefore, the legislature and the administrative agency, must recognize and protect, as far as is reasonably possible, the correlative right of each landowner to a reasonable opportunity to realize the value of the recoverable oil in place beneath his land.[6]

In view of this constitutional restriction upon both the administrative and legislative power we may dismiss as illegal and confiscatory two otherwise possible methods of dealing with the small-tract problem. A rigid adherence to the spacing rule and a denial of a permit to drill upon the small tract without making some provision for protecting the owner's right to realize the value of the oil beneath his land, which would, as a result, be drained away and produced by others, is clearly confiscatory and would be an invalid regulation. Conversely, the granting of a well to the small tract without any reduction in the allowable, and without any other provision being made for the protection of the neighboring landowners against the undue drainage that would result, would amount to a confiscation of the oil of the neighboring landowners and would be an invalid regulation. Either of these suggested solutions must, therefore, be dismissed from consideration.

In order to prevent confiscation of the oil of either the small-tract owner, or of the other landowners over the common reservoir, three different plans have been adopted. The first plan is the one used in the East Texas oil field and in other fields in this state developed prior to the discovery of the East Texas field. It involves nothing more than an application of Rule 37 in substantially the same form in which it was originally promulgated in 1919. This rule was devised long before proration or marginal well allowances were adopted, and it seems to have worked fairly satisfactory under open-flow conditions prevailing prior to the development of these new complications which it was not designed to meet.[7]

The East Texas field was discovered in 1930 prior to the adoption of proration in this state. Hence, it was only natural that Rule 37, then 11 years old, and with a long record of successful operation, should have been automatically applied to that field. No one then foresaw the difficulties that would arise in the application of that rule to a large oil field where small tracts are numerous and under the complications that were to arise subsequently when proration and marginal well statutes were enacted.

Under this plan the owner of every small tract which has been segregated prior to the adoption of Rule 37, or, as more recently qualified,[8] even if the segregation occurred after the adoption of the rule so long as it was before discovery of oil within the vicinity of the tract, is entitled to the first well as a matter of right. No reduction in the allowable of this well is made because of the smallness of the tract, even though the tract may

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be only one-hundredth the size of the tract provided for in the spacing rule. Any well obtained after the first well on the small tract must be obtained on the basis that it is necessary to enable the owner to produce the recoverable oil beneath his tract, and in making this determination the well density on his tract is contrasted with the average well density upon neighboring tracts.[9] Owners of large tracts may also obtain exceptions to the spacing rule in order to equalize the well density of their tracts with the well density on neighboring lands.

In any field where small tracts are numerous, as was the case in the East Texas field, it has been demonstrated that this method of dealing with the small-tract problem inevitably leads to a virtual abrogation of the spacing pattern adopted for the field in its spacing rule, and to the drilling of numerous unnecessary wells as defined herein. The granting of one exception immediately makes it necessary to grant other exceptions in order to prevent confiscation. Statistics reveal that this is true.

Despite the 10-acre spacing rule, 25,000 wells have already been drilled in the East Texas oil field representing a density of one well to a little over five acres. The great majority of these wells were drilled as exceptions to the spacing rule. It is estimated that approximately 8,000 more wells will be drilled as exceptions to the rule,[10] which will reduce the average well density down to one well to four acres. If one well to every 10 acres, as provided in the spacing rule, would have permitted the drilling of all wells needed to efficiently produce the oil from this field, it is apparent that approximately 12,000 unnecessary wells have already been drilled and that before drilling ceases the total unnecessary wells will be approximately 20,000.

If it is desirable to maintain the drilling pattern contemplated in a spacing rule, as must be assumed from the very fact that a spacing rule has been adopted, it is obvious that this plan of dealing with the small-tract problem is a complete failure. It encourages and, in fact, makes necessary the drilling of numerous unnecessary wells, and brings about all of the evils that the spacing rules were intended to prevent. It is harmful to the operators in the field in question because they are compelled to drill unnecessary wells in order to prevent their oil from being confiscated by operators who have obtained exceptions to the spacing rules. It is injurious to operators and landowners in other sections of the state because these unnecessary wells consume a portion of the total state allowable which their wells might otherwise have obtained and thus results in their allowables being reduced. Furthermore, these unnecessary wells represent, no doubt, in part a diversion of drilling expenditures that should have been made in other portions of the state where the landowners are sorely in need of additional wells for the proper development of their land.

From an administrative standpoint the plan used in the East Texas field has not been a success. It has placed an exceedingly complex and difficult administrative burden upon the railroad commission, as is attested by the thousands of applications for exceptions which that administrative agency has been compelled to pass upon. And the courts have been forced to bear a considerable part of this burden. The dockets of the district courts of Travis County have been crowded with these cases for years, and many of them have found their way into the appellate courts. And despite the granting of these thousands of exceptions, and the trial of these numerous cases, the law as to many procedural and administrative questions can not yet be regarded as settled. The attorney fees that have been paid by applicants and protestants must have run into millions of dollars. As an administrative regulation it has been complex, burdensome, and costly to the administrative body, to the courts, and to the operators.

From a legal standpoint all that can be said is that its legality in its operation as a proration device has never been tested. The legality of the granting of specific well exceptions in this manner has been upheld in many cases, but our highest state or federal courts have never been required to pass upon a test of the fairness of a proration order for the entire field wherein the attack was based upon alleged discriminations or arbitrariness in the distribution of allowables among the producing properties in the field resulting from the combination well-spacing, marginal well allowance, and well-potential proration plan that has been adopted in that field. A consideration of this question would raise many issues entirely beyond the scope of this paper.

The marginal well statute, however, has introduced an artificial factor into the small-tract problem that requires consideration. Our statutes[11] define a marginal

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well as a pumping well capable of producing certain amounts of oil or less at various specified depths which, if its production were curtailed below such stated amounts, would be damaged, or result in a loss of the production ultimately recoverable, or cause the premature abandonment of the well. This statute has not been judicially construed. Since flowing wells are frequently found in the same oil field closely associated with pumping wells, the railroad commission has never undertaken to reduce the allowable of a flowing well below that of a pumping well, with the result that a flowing well is also regarded as entitled to a proration allowable at least equal to the marginal well allowance of a pumping well of the same depth. Furthermore, pumping wells have always been given their marginal well allowance despite the fact that the statute obviously contemplates that the allowable of a pumping well may be reduced below its marginal allowance if such curtailment would not result in damage to the well, cause its premature abandonment, or result in a loss of the production ultimately recoverable. Apparently, also, the railroad commission has adopted the view that a well drilled upon a tract smaller than that permitted by the spacing rules is, nevertheless, entitled to the full benefit of the marginal well statute.

The net result of the marginal well statute, as now interpreted by the administrative agency, and as applied to the small-tract problem, is that any well drilled upon a small tract, regardless of how small it may be, and regardless of whether it is a pumping or a flowing well, is entitled to the full marginal well allowance of a well of its depth.

East Texas

In oil fields, such as East Texas where the proration allowable for a well drilled in accordance with the spacing rules is only 2 or 3 bbls. per day more than the 20-bbl. marginal well allowance for a well in that field, it is obvious that the marginal well statute, so long as it is interpreted and applied as at present, prevents the allowable of a well drilled upon a very small tract from being reduced to such an amount as would entitle it merely to produce the recoverable oil in place beneath the small tract and no more. The result is that the oil of neighboring landowners will be confiscated by the well on the small tract unless they too are permitted to drill wells as exceptions to the spacing rule.

Furthermore, it is obvious that, if enough exceptions are actually granted to the neighboring tracts to allow them to produce the recoverable oil beneath their land, and to avert confiscation by preventing the well on the small tract from recovering more oil than is in place beneath the small tract, then the well on the small tract will necessarily be an unprofitable well in all instances where the amount of oil in place beneath the small tract was not sufficient to repay drilling and operating costs. But, in order to effect this rule, the operators an adjoining tracts would be compelled to drill so many wells that each of their wells would also become unprofitable.

As a practical matter, the owners of the neighboring lands, as sensible business men, would prefer to have some of their oil confiscated rather than to drill so many wells as to render their operations entirely unprofitable. Hence, it is frequently very profitable to drill a well upon a very small tract of land even though there is not enough oil beneath that land to repay drilling and operating costs. The applicant knows that he will be able to drain enough oil from adjoining properties to render his well profitable, and thus is given an incentive to drill a well under these circumstances.

A second plan for handling the small-tract problem has been adopted in most, if not all, of the fields discovered since the East Texas field. This plan also contemplates the granting of the first well to the small tract as a matter of right. In order to prevent confiscation of property, however, this plan provides for a reduction in the allowable of the well drilled upon a small tract because of its deficiency in acreage. In this manner it is designed to avoid one of the principal defects in the first plan in that it is hoped that the granting of an exception to the small tract with a reduced allowable will not make it necessary to grant exceptions to neighboring large tracts. The only reasonable standard upon which to reduce the allowable of the well upon the small tract is to reduce it to such an extent as will prevent the well from producing more than the amount of recoverable oil in place beneath the small tract. Only in this manner can the issue of confiscation be avoided.

This standard will work satisfactorily in the case of a tract only slightly smaller than the area required for a well location under the spacing rules. However, in the case of very small tracts, this standard is not workable where the total amount of oil in place beneath the small tract is insufficient to repay the cost of drilling the well plus operating expenses. The result would be that the owner of the small tract could not afford to drill a well and his oil would be drained away by neighboring operators.

To obviate this difficulty a compromise standard for the reduction of the allowable of a well drilled on the small tract has been adopted. The usual practice is to allot one-half of the field allowable to well potentials and the other one-half to acreage. The well on the small tract receives its full share of the field-potential allowable based upon its potential. However, in computing its share of the acreage allowable, a reduction is made based upon the ratio of the size of the small tract to the acreage required for a well location under the spacing rules. It is obvious that this is a more or less arbitrary standard by which to reduce the allowable of the well drilled upon the small tract.

To illustrate: If the spacing regulations provided for 20-acre well locations, and the small tract was only one-tenth of an acre in size, the small tract would receive an allowable of a little more than one-half of the allowable of a well with the same potential drilled upon a 20-acre tract although the small tract would be only one two-hundredth the size of the latter tract. No one would seriously contend that such an allowable would not enable the well on the small tract to produce many times the amount of oil actually in place beneath the small tract. The issue of confiscation would clearly be raised unless adjacent operators were permitted to drill wells as exceptions to the spacing rule so as to counteract this drainage.

The same objections can thus be raised to this second plan as were raised to the first plan, although to a lesser degree. In the case of small tracts that are only slightly smaller than the area required for a well location under the spacing rules, this second plan works fairly satisfactorily, but in the case of very small tracts it must either result in confiscation, or in the drilling of numerous unnecessary wells. Obviously, if applied to a field with conditions similar to those exisiting in the East Texas field, it would do very little to eliminate the drilling of unnecessary wells.

Furthermore, in applying this second plan, the marginal well allowance is apparently always given to the well on the small tract no matter how small the tract may be. The result is that in any field where there is very little spread between the highest allowable given to a well drilled in accordance with the spacing rules and the marginal well allowance, the well drilled on the small tract will be permitted to produce practically as much as wells drilled in accordance with the rule. In a field where this is true the amount of reduction suffered by the well on the small tract is so unsubstantial as to frustrate the entire purpose of this second plan.

Both of these first two plans proceed upon the presumption that every small tract not created for the purpose of evading the spacing rule is entitled to one well as a matter of right. It is inevitable that the first plan will lead to the drilling of numerous unnecessary wells, if confiscation is to be avoided, and the same is true of the second plan where very small tracts exist, or where the marginal well allowance closely approaches the allowable given to wells drilled in accordance with the spacing rule

Third Plan

A third plan has been adopted by the legislatures of the states of New Mexico,[13] Oklahoma,[15] and Louisiana,[16] which proceeds upon an entirely different premise. The small tract which cannot meet the requirements of the spacing rule is denied a well. In order to prevent the confiscation of the oil beneath the small tract, a provision is made whereby the small-tract may be pooled with adjacent tracts and share in the production from those tracts upon an equitable basis. The plan is very similar to the forced pooling of all of the lots within a city block which was first upheld in *Marrs v. City of Oxford*,[15] and which has since been upheld in other instances as applied to small tracts within cities. A similar plan was used by the city of Houston, and both the city ordinance,[18] and the railroad commission order,[17] providing for pooling in accordance with the terms of the city ordinance, were sustained as valid.

In a recent case, *Patterson v. Stanolind Oil & Gas Co.*,[18] the validity of the Oklahoma statute and the order of its administrative agency applying this plan of solution to a small tract in a rural area was upheld. From a newspaper account it appears than an effort is being made to carry this important test case to the United States Supreme Court. A decision by that court would be of great value to the oil-producing states as indicating the extent to which the police power may be exerted in solving the small-tract problem. There would seem to be every reason for believing that the holding of the Oklahoma Supreme Court will be sustained.

The United States Supreme Court, by denying a writ of certiorari in the *Marrs case*, gave approval to this type of pooling regulation as applied to city property. It is true that other police power purposes are involved in the case of city property from the police power purposes involved in a similar regulation applied to rural property. Nevertheless, the proper control of the spacing of wells has been sustained as a valid exercise of the police power, and, if pooling of small tracts in rural areas is reasonably necessary to accomplish this valid police power purpose, the regulation should be sustained.

This third method of solving the small-tract problem

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has never been applied in Texas except as to city property. There seems to be some difference of opinion as to whether it could be applied in Texas without a change in our present statutes. Article 6014, section (g) of our oil conservation act contains a provision that "it is not the intent of this act to require . . . that separately owned properties in any pool be unitized under one management, control or ownership." While this provision has never been judicially construed, it would seem quite clear that it was directed at the compulsory unit operation plan for an entire oil field. Furthermore, the statute is not worded in terms of a prohibition to the railroad commission; it is worded merely as an expression of intent on the part of the legislature that the statute is not to be construed as requiring unitization. It is believed that the general power of the railroad commission to control well spacing is not limited by this statutory provision as to render it impossible for the commission to require pooling of a small tract with adjacent tracts in order to maintain a proper well spacing pattern and to eliminate the drilling of unnecessary wells.

Time will not permit a discussion of the various details involved in this third plan of solving the small-tract problem. A study of the legislative acts in the three states that have adopted this plan will reveal that these details have been worked out to the satisfaction, apparently, of the operators and landowners in those states.

There can be no doubt but that this third plan of solving the small-tract problem, or some modification thereof, is the only method that can be adopted which will under all conditions prevent both confiscation of property and the drilling of unnecessary wells. It is the only method that can be used which will preserve the uniform spacing pattern that spacing regulations are designed to establish. And it is the only plan by which fair and equitable allowables can be preserved under proration and the marginal well law as the latter is now interpreted. It seems to be the only real solution of the small-tract problem.

Footnotes

1. Estimates of proven reserves vary from thirteen and one-half billion to fifteen and one-half billion. For a detailed estimate of reserves by states and fields, see *The Oil and Gas Journal*, January 27, 1938, page 38 et seq.

2. It is obvious that it would take much longer than 15 years to actually produce all of the oil from known proven reserves. In fact, an acute shortage would develop in a much shorter number of years if new fields were not discovered.

3. Another important fact should be considered in connection with these figures. Wells that have been completed since proration was adopted will produce for a much longer period than was true of the wells completed prior to proration. The abandonment rate of the wells completed during the past several years will, for that reason, be very slow until the number of years have elapsed since proration was first adopted which represents the average life expectancy of a prorated well.

4. *The Oil and Gas Journal*, April 14, 1938, page 111. A recent estimate indicates that the new fields discovered in Texas during the year 1937 have a total productive acreage of 111,675 acres and that extensions of oil fields during the same year proved up an additional 7,895 acres. *The Oil and Gas Journal*, January 27, 1938, page 50.

5. *Brown v. Humble Oil & Refining Co.*, 126 Tex. 296, 83 S.W. (2d) 935, 87 S.W. (2d) 1069, 99 A.L.R. 1107, 101 A.L.R. 1393, and authorities cited.

6. The writer's views are expressed in an article entitled, *Property Rights in Oil and Gas and Their Effect Upon Police Regulation of Production*, 16 Tex. Law Rev. 370.

7. One of the reasons for its more successful operations under open-flow conditions is that the area efficiently drained by a well permitted to produce at full capacity is apparently much smaller than that of a restricted-flow well where full advantage is taken of the reservoir energy in producing the oil. Furthermore, Rule 57, in its original form, provided for a well location of only a little in excess of two acres. Hence, very few tracts were denied a well under the rule. There were, however, a few cases in which the spacing rule was assailed prior to proration. See *Oxford Oil Co. v. Atlantic Oil & Producing Co.*, 16 Fed. (2d) 639, aff'd., 22 Fed. (2d) 597, cert. denied, 277 U.S. 585, 48 Sup. Ct. 433, 72 L. Ed. 1000 (1927); *Humble Oil & Refining Co. v. Strauss*, 243 S.W. 528; *Railroad Commission v. Bass*, 10 S.W. (2d) 586; *State v. Jarmon*, 25 S.W. (2d) 936.

8. *Shell Petroleum Corp. v. Railroad Commission*, 116 S.W. (2d) 439.

9. *Smith County Oil & Gas Co. v. Humble Oil & Refining Co.*, 112 S.W. (2d) 220.

10. *The Oil and Gas Journal*, April 14, 1938, page 111.
11. Art. 6049 (b), Ver. Ann. Tex. Civ. Sts.
12. Chap. 72, Sec. 12, Laws of New Mexico, 1935.
13. Chap. 59, Art. 1, Sec. 3, Session Laws of Oklahoma, 1935.
14. Act No. 225, Sec. 6, Sub-div. 6, Acts of Louisiana, R.S. 1936.
15. 32 Fed. (2d) 134, 67 A.L.R. 1336, cert. denied, 280 U.S. 573, 50 Sup. Ct. 29, 74 L. Ed. 625.
16. *Tysco Oil Co. v. Railroad Commission*, 12 F. Supp. 202.
17. *Tysco Oil Co. v. Railroad Commission*, 12 F. Supp 195.
18. 77 Pac. (2d) 83.

Great Britain's Oil Imports Heavier Than Last Year's

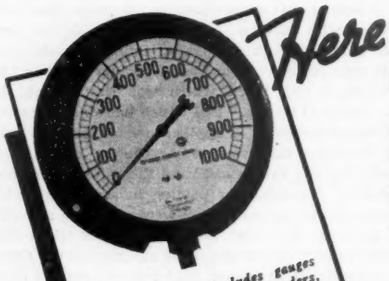
Petroleum imports totaling 8,965,000 bbls. in April by Great Britain boosted the total receipts so far in 1938 to 31,507,800 bbls., an increase of 14.8 per cent over the first four months of 1937. April imports alone were 1,143,700 bbls. greater than for the same month last year, a gain of more than 14.6 per cent.

The United States has shared liberally in the increased rate of petroleum imports by Great Britain. During the first four months this year this country supplied 4,296,100 bbls. of petroleum to Great Britain, a gain of nearly 57 per cent. Substantially larger quantities of petroleum also have been drawn from the Netherland West Indies, Iraq and Venezuela. As a source of supply Venezuela still ranks no higher than sixth, but has registered a gain of almost 130 per cent over 1937 and more than that of any other country. Losses have been incurred by British West Indies, Rumania, Peru and Netherland East Indies.

The consigning countries, listed according to their positions as suppliers of British petroleum imports, follow:

(Figures in U. S. barrels)

Consignor—	Jan.-April 1938	Jan.-April 1937
Neth. W. Indies	13,242,000	8,651,000
Iran	5,169,500	5,485,100
United States	4,296,000	2,740,800
Mexico	1,705,000	1,707,000
Iraq	1,484,000	797,000
Venezuela	1,063,000	465,000
British W. Indies	1,000,800	1,956,000
U.S.S.R.	957,000	961,000
Rumania	671,500	1,779,800
Peru	399,700	1,065,000
N. E. Indies	129,600	244,000
Other British	347,100	286,400
Other foreign	1,042,500	1,309,000
Total	31,507,800	27,447,100



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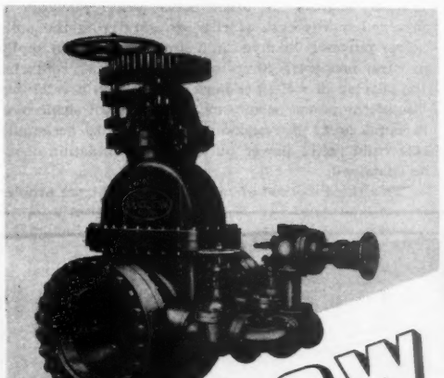

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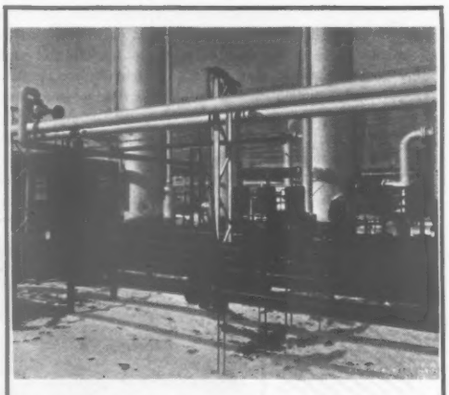

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Aug. 6.—The latest government report on Turner Valley crude potentials shows an aggregate potential for the field of 52,272 bbls. The largest producer is Frontier Royalties No. 1, LSD 11, section 16-18-2w5, with 5,078 bbls. a day. Vulcan-Brown Petroleums No. 1, LSD 10, section 5-19-2w5, in West Central Turner Valley, ranks second with 3,472 bbls. and Sundance Royalties No. 1. LSD 9, section 17-18-2w5, is third with 3,126 bbls. There are three wells rating between 2,000 and 3,000 bbls., and 16 between 1,000 and 2,000; with 32 wells producing from 10 to 926 bbls. a day. Completions not included in the official list will bring the potential close to 55,000 bbls. a day. This does not include a naphtha production around 1,800 bbls. a day.

Turner Valley Completions

In section 17-18-2w5, Coronation Royalties No. 1, LSD 15, finished at 7,572 feet with 582 bbls. temporary potential, increased its potential after acidizing with 9,000 gallons to approximately 1,450 bbls. a day.

In section 32-18-2w5, West Turner Petroleums No. 2, LSD 7, finished at 7,150 feet with natural production around 650 bbls., was acidized and developed a flush of 2,500 bbls. a day, with 2,500,000 feet of gas, settling to about 2,000 bbls. a day.

In West Central Turner Valley, Mercury Royalties No. 1, LSD 8, section 5-19-2w5, finished in the black lime at 6,666 feet. It cleared itself under its own gas pressure, settling to about 200 bbls. a day, which acidizing may increase to around 500 bbls. Location is about one-half mile southeast of Vulcan-Brown Petroleums big producer, but considerably higher on structure.

In section 29-18-2w5, Davies Petroleums No. 1, LSD 2, finished at 7,375 feet with temporary potential of 1,045 bbls. a day, has been acidized with 5,000 gallons and is testing production. Globe Royalties No. 1, LSD 7, same section, bottoming at 7,403 feet with temporary potential of 323 bbls., is waiting for acid.

Tests in the Lime

In section 29-18-2w5, Royalite Oil Co. No. 31, LSD 6, is below 7,827 feet, after getting the Madison limestone at 7,590 feet. It is about one-quarter mile west of the most westerly producer, and production, which is expected around 8,000 feet, will extend the proven field that much farther down the west flank.

In section 17-18-2w5, Royalite No. 32, LSD 8, is below 6,945 feet, after getting the lime at 6,800 feet.

West Side Drilling

In section 5-19-2w5, West Central Turner Valley, Royalite Oil Co. No. 34, LSD 7, is below 1,671 feet, after making water shutoff at 202 feet. Royalite No. 33, LSD 2, is below 6,731 feet.

In section 6-19-2w5, East Crest Oil Co. No. 4, LSD 8, bottoming in the Upper Benton formation at 2,340 feet, is changing to rotary outfit.

In section 32-18-2w5, Freehold Oil Corp. No. 7, NE cor. LSD 14, has finished cellar. Coast Drillers, Ltd., have the drilling contract with W. S. Applegate in charge. This is the first of a series of three tests to be drilled by Freehold Oil Corp. in conjunction with other interests. Permits have been issued for Freehold-British Petroleum No. 7 in N half LSDs 13-14; and for Freehold-Hargal Oils No. 7 in NW quarter LSD 13. Vantage Oils No. 1, S half LSD 12, same section, is at 96 feet with surface pipe set, waiting for rotary outfit. Davies Petroleums No. 4, LSD 10, passed through the cardium sandstone marker between 4,284 and 4,350 feet, and is deepening in the Lower Benton formation. West Turner Petroleums No. 3, LSD 6, is below 4,000 feet. British-Colonial Oils No. 1, LSD 5, is fishing for lost bit in the Belly River formation at 1,525 feet. West Turner Petroleums No. 4, LSD 3, offsetting Command Oils No. 1 to the north, is digging cellar and will use rotary outfit from No. 2 producer.

In section 29-18-2w5, Command Oils No. 1, LSD 14, is below 3,157 feet. Commoil No. 2, LSD 10, is below 7,024 feet. P. & H. Development Co. No. 1 Alco, LSD 13, is shut down at 1,370 feet.

In section 20-18-2w5, Consolidated Royalties No. 1, LSD 14, is below 7,000 feet after getting the Kootenay formation at 6,970. Producers Crude Corp. No. 1, LSD 11, has resumed and is in the Upper Benton formation below 3,588 feet. Sunset Oils No. 2, LSD 7, is below 6,652 feet after getting the Home sand at 6,520 feet. York Oils No. 1, LSD 2, is below 6,650 feet after getting the Home sand at 6,490 feet.

In section 17-18-2w5, Extension Royalties No. 1, LSD 14, is shut down at 3,685 feet. The heavy-duty rotary outfit is being moved to Petroleum Structures No. 1 location in the Bearberry area; and the Extension test will stand idle till the outfit from Commoil No. 2 is available. Anglo-Canadian Oil Co. No. 3, LSD 10, is below 1,319 feet after setting 13-inch casing at 652 feet.

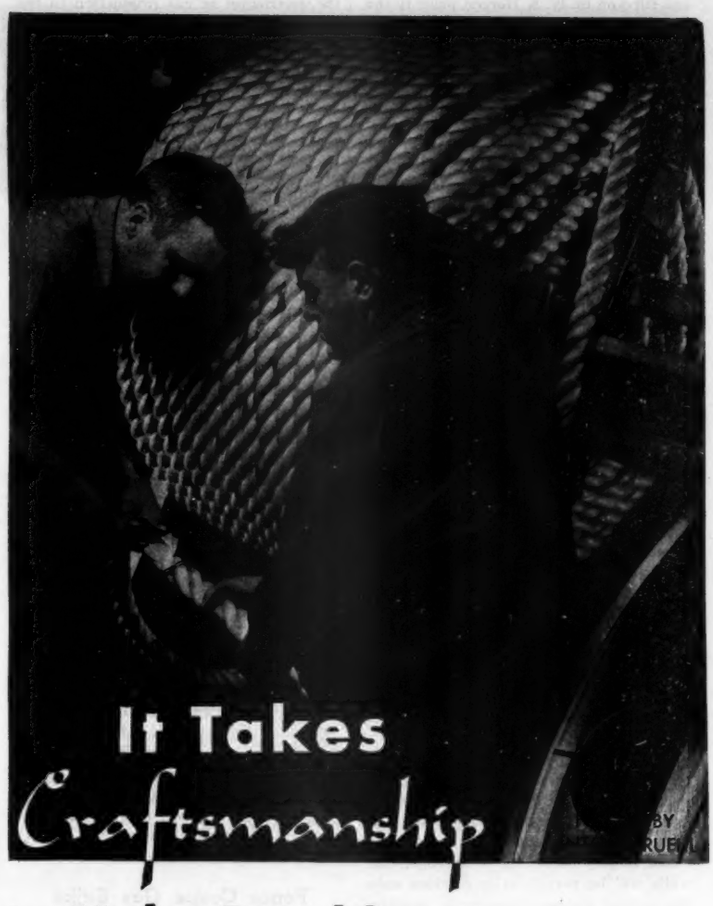
In section 16-18-2w5, Brown Oil Corp. No. 5, LSD 12, is below 4,758 feet. Neil McQueen and associates No. 1 Richwell, LSD 5, is below 3,836 feet. Royal Canadian Oil Co. No. 2, LSD 4, has resumed from 3,043 feet after changing to rotary outfit. Okalta Oil Co. No. 7, LSD 3, is standing with 10-inch casing cemented at 3,050 feet, waiting for rotary. Okalta No. 8, LSD 6, is standing at 1,250 feet.

In section 5-18-2w5, P. & H. Development Co. No. 1 C. & E., LSD 7, is shut down at 185 feet.

In the far south, Anglo-Canadian Oil Co. No. 2, LSD 2, section 33-16-2w5, is below 4,821 feet.

Okalta Deep Test

West of the Turner Valley crude area, Okalta Oil Co. No. 6, LSD 3, section 30-18-2w5, is in the Fernie shales below 9,400 feet, and getting close to the Madison limestone. It is 2 miles west of crude production. No. 6 will test extensive acre-



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age filed on by W. S. Herron prior to the Calgary boom of 1914 and will help define the westerly limit of crude production. The producing horizon is expected around 10,000 feet.

In section 31-18-2w5, Anglo-Canadian Oil Co. No. 1, LSD 16, is below 4,175 feet.

Testing Crude Producers

In the Turner Valley field, production tests are being taken of all crude wells under the direction of the Alberta Oil and Gas Conservation Board. The new method of determining the production rate by measurement of the flow through a 2-inch orifice for a limited period is being used. The tests are experimental, and some modification of the method may be made. It is expected the new method will slightly favor the smaller wells, though the aggregate potential for the field will remain pretty much the same. It is understood quotas will be based upon measured production of both oil and gas and upon the size of the area drained by each well. It is also expected that for the future spacing of one well to 40 acres will be adopted; and that quotas of wells already drilled on lesser acreage will be adjusted accordingly.

Quotas will be based on the aggregate amount of crude required by the market from time to time though efforts will be made to secure larger markets for crude production.

Quotas for Gas Wells

It is planned to adopt a somewhat similar quota system for Turner Valley gas wells. The amount of gas required by the existing markets will be determined, and quotas allotted for the various producing wells, largely according to acreage. Gas wells will be permitted to produce only the allotted quotas. Henceforth, naphtha wells will be classfiied as gas wells, and the restriction of gas production to the amount actually required by existing markets will automatically restrict the naphtha recovery.

Heretofore, all Turner Valley gas used by the Canadian Western Natural Gas, Light, Heat & Power Co. has been supplied by Royalite Oil Co. under an exclusive contract; and residual gas from wells of independent naphtha producers has been burned in flares. The existing demand has not been large enough to absorb the entire Royalite output.

The conservation board has called for "nominations" from gas and oil purchasing firms stating what amount of Turner Valley gas and crude they are prepared to buy; and the market for gas and crude will be fixed on the basis of these requirements and quotas for both commodities allotted accordingly. Crude producers will be allowed to produce, and to sell if possible sufficient gas for lifting the crude to the surface.

North Turner Valley

On the west flank of North Turner Valley, Phillips Royalties No. 1, LSD 16, section 16-20-3w5, is in the Lower Blairmore formation below 7,400 feet.

In section 33-20-3w5, Home Oil Co. No. 2 Millarville, LSD 6, is in the Lower Benton formation below 4,729 feet.

East Side Drilling

On the New Valley structure northeast of Turner Valley, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, bottoming at 8,430 feet, has cleaned hole and is running casing. After this is finished, some 2,000 feet of crude will be bailed and the hole probably deepened.

Pouce Coupe Gas Strike

In the Pouce Coupe area, in the northern foothills west of Peace River, Guardian Oil Co. No. 1, section 7-80-12w6, encountered a fair oil show around 932 feet and gas, estimated 2,000,000 feet a day, at 945 feet. Water was struck just below the gas horizon, preventing a satisfactory production test. The hole has been deepened to 1,060 feet and 8-inch casing is being run to bottom. It is planned to continue drilling to the Lower Cretaceous sand, expected around 4,200 feet. Cores taken indicate a large dome structure, and geological investigations tend to show that the thick Lower Cretaceous sands overlie the petroliferous limestones and are in turn overlain by a great thickness of impervious St. John shales, providing favorable conditions for a large field.

Moose Dome Prospects

On the Moose dome structure, in the foothills about 60 miles west of Calgary, Moose Oils No. 2, LSD 8, section 29-22-6w5, is pumping about 25 bbls. of light crude per day. It is producing from a stray sand at 1,553 feet, the hole being cased with 16-inch to 750 feet. Crude is hauled to Calgary by truck, production being taken by an independent refinery. Moose Oils No. 1 on the same structure was originally carried to 2,832 feet, encountering a wet gas flow of 10,000,000 feet a day, but finishing with two strings of tools in the hole. It is still producing considerable gas, and has a potential naphtha recovery around 25 bbls. a day. The Moose wells started drilling in the Madison limestone and got the top of the Devonian limestone at shallow depth.

Arrangements have been made for deepening Moose Oils No. 2 to the producing horizon indicated in No. 1 well, which is looked for within 3,000 feet. The Moose company is controlled by Loran Pilling, president, and D. W. Pilling of Calgary, who first geologized the area.

Tests in the Foothills

On the Kootenay dome west of Calgary, Roxana Petroleums No. 1, section 8-24-7w5, is standing at 3,932 feet, waiting for casing to shut off a troublesome sulfur-gas flow in the Devonian limestone.

On the Highwood-Sinclair structure, southwest of Turner Valley, Green Valley Oils No. 1 Banner, LSD 6, section 34-17-3w5, is in the Madison limestone below 6,102 feet with the main porous horizon expected around 6,200 feet.

East Central Alberta

On the Battleview anticline in the Wainwright field, east-central Alberta, Altoba Gas and Exploration Co. No. 2, section 35-47-7w4, bottoming at 2,311 feet, is on the pump and making about 50 bbls. in from six to eight hours. Owing to cutting of the pump cups by sand, difficulty has been experienced in securing continuous production. The well is estimated good for 100 to 150 bbls. a day if continuous production can be secured.

Company Directors

At the annual meeting of McDougall-Segur Exploration Co. at Calgary recently the following directors were elected: John I. McFarland, T. M. Carlyle, J. McKinley Cameron, F. M. Graham, O. H. Patrick, F. G. Garbutt, A. G. Graves.

Shareholders of Commoil, Ltd., of Calgary elected the following officers: President, D. J. Young; vice president, F. F. Reeve; treasurer, E. B. Allan; secretary, G. J. McKay; director, G. T. Wright. The same directorate was elected by Commonwealth Petroleums, Ltd., and Command Oils, Ltd., affiliated companies.

Directors elected by Brown Oil Corp., Ltd., of Calgary were R. A. Brown, Sr., Hon. R. J. Manion, S. J. Bird, H. A. Howard and R. A. Brown, Jr.

FIX COLLAR LEAKS QUICK!

(Above)—CROSS SECTION. Style 41 Collar Clamp. Note simplicity of construction and ample gasket section. Bolts may be cadmium-plated.

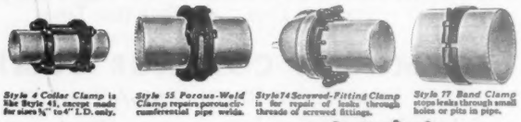
Repairs to leaking collars are easy with Dresser Style 41 Collar Clamps! Easily applied by unskilled labor without interruption of the service, this repair clamp is inexpensive, can be furnished for any collar—old or new,—and is permanently tight for all pressures.

DESCRIPTION. Each Style 41 Clamp consists of a few, simple, factory-made parts (steel followers, gaskets, bolts), which are quickly assembled with only one tool—a wrench.

SIZES. Style 41 Collar Clamps are available in sizes 4½" to 12" I.D., inclusive. For sizes ¾" to 4" I.D., Style 4 (with malleable followers) is furnished.

HOW TO ORDER. Give: (1) quantity; (2) nominal size and outside diameter of pipe; (3) style number; (4) service—contents of line; (5) maximum working pressure; and (6) overall diameter and length of collar, where size or design of collar is special.

OTHER DRESSER REPAIR CLAMPS



Style 4 Collar Clamp is like Style 41, except made for sizes ¾" to 4" I.D. only.

Style 55 Porous-Weld Clamp repairs porous circumferential pipe welds.

Style 74 Screwed-Fitting Clamp is for repair of leaks through threads of screwed fittings.

Style 77 Band Clamp stops leaks through small holes or pits in pipe.

Style 78 Saddle Clamp repairs leaks in pipe 4" I.D. or smaller. Two or more can be butted together.

Style 79, Type 1, Split Repair Clamp fixes splits and pitted sections of pipe. Furnished also with one half-shell and stirrups (Type 2).

S. R. DRESSER MFG. CO.

BRADFORD, PA.

In Canada: Dresser Mfg. Company, Ltd., 60 Front St., West, Toronto, Ont.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Wilshire Oil, No. 1 Hollister, Gaviota, Santa Barbara	35- 5-33	4,650	P.B. 4,292
Shell Oil, No. 1-27 Covarrubias, Capitan, S. Barbara	32- 5-30	1,320	O. S. drlg.
South Crude Oil, No. 2-191, Coal Oil Pt., S. Barbara	tideland	5,510	dry; abd.
Hancock-Bush, No. 3 Cal. Lands, S. Maria, S. Barbara	30-10-33	4,237	sd. sh. drlg.
Union Oil, No. 2 Wheat, Santa Maria, Santa Barbara	22-10-34	3,945	cleaning out
Union Oil, No. 2 Mallory, Santa Maria, Santa Barbara	27-10-34	4,990	sd. sh. drlg.
Greathouse Oil, No. 1 Fortier, S. Maria, S. Barbara	27-10-34	3,975	sd. sh. drlg
Standard Oil, No. 1, Cat Canyon, Santa Barbara	27- 9-33	6,451	sd. sh. drlg.
Douglas Oil, No. 1 Stratton, Los Alamos, S. Barbara	8- 8-33	6,238	P. B. 6,000
Barnsdall Oil, No. 5 Magenheimer, Gato Rdg., S. Barb.	9- 8-32	2,396	br. sh. drlg.
Petrol Corp., No. 511 Magenheimer, Gato Rdg., S. Bar.	9- 8-32	2,361	br. sh. drlg.
United West. Oil, No. 1, Los Olivos, Santa Barbara	16- 7-30	3,270	idle
Oceanic Oil, No. 1 Santa Barbara Mesa, S. Barbara	28- 4-27	2,049	deepening
High Mesa Oil, No. 1 Butcher, Ojai, Ventura	16- 4-22	1,691	fishing
Holly Dev., No. 1 Macrate, Ojai, Ventura	27- 4-23	4,080	br. sh. drlg.
Ventura Drlg., No. 1, Ojai, Ventura	10- 3-23	170	sd. sh. drlg.
Texas Co., No. 5 Yale, South Mountain, Ventura	13- 3-21	6,126	fish D. P.
Merchants Pet., No. 1, Sespe, Ventura	1- 4-20	790	hd. sh. drlg.
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	510	cleaning out
Stalling & Senter, No. 1, Timber Canyon, Ventura	24- 4-21	1,440	P. B. 1,340
Section 20 Oil, No. 1, Sespe, Ventura	20- 5-19	1,811	O. S. drlg.
McKinnis, C. R., No. 1 Hopper Canyon, Ventura	14- 4-19	311	sd. sh. drlg.
Darby Oil, No. 1 Cohn, Moor Park, Ventura	7- 2-19	4,376	rd. sd. drlg.
Continental Oil, No. 9 Grubb, San Miguelito, Ventura	24- 3-24	3,789	sd. sh. drlg.
C. C. M. Oil, No. 7 Oakgrove, Padre Canyon, Ventura	23- 3-24	3,050	cmtd. 3,036
C. C. M. Oil, No. 7-C Hobson, Rincon, Ventura	17- 3-24	3,097	sd. sh. drlg.
Tide Water A., No. 39 V.L.W., Ventura Ave, Ventura	24- 3-23	6,880	sd. sh. drlg.
Tide Water A., No. 75 Lloyd, Ventura Ave., Ventura	26- 3-23	6,275	sd. sh. drlg.
Tide Water A., No. 111 Lloyd, Ventura Ave., Ventura	27- 3-23	9,690	hd. sd. drlg.
Tide Water A., No. 127 Lloyd, Ventura Ave., Ventura	27- 3-23	7,350	sd. sh. drlg.
Tide Water A., No. 7 Hartman, Ventura Ave., Ventura	22- 3-23	6,597	sd. sh. drlg.
Tide Water A., No. 11 McGonigle, Ventura Ave., Ven.	23- 3-23	8,132	hd. sd. drlg.
Shell Oil, No. 96 Taylor, Ventura Ave., Ventura	28- 3-23	7,390	O. S. drlg.
Shell Oil, No. 30 Edison, Ventura Ave., Ventura	20- 3-23	1,984	sd. sh. drlg.
Shell Oil, No. 31 Edison, Ventura Ave., Ventura	20- 3-23	7,798	mill tubing
Shell Oil, No. 37 Gosnell, Ventura Ave., Ventura	28- 3-23	8,618	P. B. 8,470
General Pet., No. 18 Barnard, Ventura Ave., Ventura	21- 3-23	7,772	C. P. 4,861
Lloyd Corp., No. 2 Dabney-Lloyd, Ventura Ave., Ven.	24- 3-23	2,482	sd. sh. drlg.
Gibson Oil, No. 3 Alferitz, Devils Den, Kern	14-25-18	770	hd. sd. drlg.
Lyse & Sonne, No. 1 Pasadena, McKittrick, Kern	28-30-22	4,032	tested wet
Randan Pet., No. 1 Theta, Lost Hills, Kern	3-26-20	1,625	testing
Belridge Oil, No. 27-13, North Belridge, Kern	27-27-20	2,068	sd. sh. drlg.
Tide Water A., No. 22-3, North Belridge, Kern	22-27-20	3,180	sd. sh. drlg.
Richfield Oil, No. 2 Belridge, North Belridge, Kern	22-27-20	8,084	br. sh. drlg.
Texas Co., No. 4 Martin, North Belridge, Kern	22-27-20	8,200	hd. sh. drlg.
Honolulu Oil, No. 47, Round Mountain, Kern	20-28-29	2,020	O. S. drlg.
Ring Oil, No. 1 L. & S., Round Mountain, Kern	11-28-28	2,339	dry; abd.
Amerada Pet., No. 1 Olcese, Round Mountain, Kern	4-29-29	2,815	gr. sd. drlg.
Kern Oil, No. 25-3-C, Kern Front, Kern	25-28-27	1,869	O. S. drlg.
Helm & Smith, No. 5-A Kernco, Kern River, Kern	34-28-28	575	bailing
Barnhart & Morrow, No. 1 Zanetti, Kern River, Kern	19-28-28	1,185	cleaning out
Barnhart & Morrow, No. 5 KCL, Kern River, Kern	11-28-27	1,733	O. S. drlg.
Hast Oil, No 4 Kern, Kern River, Kern	34-28-28	321	O. S. drlg.
B-A Oil, No. 1 Glide, Mount Poso, Kern	31-27-28	1,770	idle
Federal Drlg., No. 3 Glide, Mount Poso, Kern	13-26-28	1,498	sd. sh. drlg.
Marcan Oil, No. 5 Glide, Mount Poso, Kern	1-27-27	396	sd. sh. drlg.
Ring Oil, No. 7 Bowles, Mount Poso, Kern	29-26-28	1,509	sd. sh. drlg.
Western Gulf Oil, No. 4 Sawyer, Fruitvale, Kern	27-29-27	3,837	O. S. drlg.
Texas Co., No. 1 Lowe, Fruitvale, Kern	7-29-27	7,931	hd. sh. drlg.
Hogan Pet., No. 3 Peters, Mountain View, Kern	5-31-29	5,460	recmtd. 5,160
Greer, P. H., No. 2 Perrel, Mountain View, Kern	9-31-29	6,638	redrlg. 6,097
Continental Oil, No. 3-A, KCL, Wasco, Kern	8-27-24	11,320	sd. sh. drlg.
Continental Oil, No. 1 Seaboard, KCL, Wasco, Kern	26-27-24	12,778	fish core bbl.
Standard Oil, No. 8-1-B, KCL, Wasco, Kern	17-27-24	11,043	sd. sh. drlg.
Standard Oil, No. 1 Mushrush, Wasco, Kern	7-27-24	9,350	sd. sh. drlg.
Superior Oil, No. 3 Geissinger, Bravo, Kern	35-28-25	11,195	sd. sh. drlg.
Superior Oil, No. 1 Anderson, Rio Bravo, Kern	35-28-25	11,608	cleaning out
Superior Oil, No. 1 Helbing, Rio Bravo, Kern	1-29-25	12,264	tested wet
Union Oil, No. 2-34, KCL, Rio Bravo, Kern	34-28-25	11,204	redrlg. 8,310
Union Oil, No. 4-34, KCL, Rio Bravo, Kern	34-28-25	10,312	sd. sh. drlg.
Union Oil, No. 5-34, KCL, Rio Bravo, Kern	34-28-25	5,396	sd. sh. drlg.
Getty Oil, No. 2 Ramsey, Rio Bravo, Kern	35-28-25	11,007	sd. sh. drlg.
General Pet., No. 1 Wagoner, Rio Bravo, Kern	35-28-25	11,000	sd. sh. drlg.
General Pet., No. 4 Wagoner, Rio Bravo, Kern	35-28-25	9,282	sd. sh. drlg.
Standard Oil, No. 18-1, KCL, Una, Kern	29-28-26	10,290	sd. sh. drlg.
Shell Oil, No. 83-35 KCL, McFarland, Kern	35-26-25	10,027	sd. sh. drlg.
Tide Water A., Well No. 1, Pond, Kern	17-26-25	7,990	gr. sd. drlg.
Dilmar Oil, No. 1 Quinn, Jasmin, Kern	15-25-27	2,882	rig to pump
Standard Oil, No. 11-15 KCL, Greeley, Kern	18-29-26	7,735	fish tubing
Standard Oil, No. 2 Fleishauer, Greeley, Kern	20-29-26	9,561	sd. sh. drlg.
Superior Oil, No. 1 Krause, Greeley, Kern	21-29-26	8,178	may deepen
Continental Oil, No. 2-B KCL, Rosedale, Kern	12-29-26	6,690	sd. sh. drlg.
Continental Oil, No. 1-E KCL, Stevens, Kern	17-30-26	8,574	P. B. 8,230
Standard Oil, No. 15-2 KCL, Canfield Ranch, Kern	27-30-26	8,525	fish D. P.
Shell Oil, No. 61-29-A KCL, Ten Section, Kern	29-30-26	8,230	O. S. drlg.
Shell Oil, No. 2-32-B KCL, Ten Section, Kern	32-30-26	7,760	sd. sh. drlg.
Shell Oil, No. 72-31-B KCL, Ten Section, Kern	31-30-26	5,395	sd. sh. drlg.
Shell Oil, No. 67-20-B KCL, Ten Section, Kern	20-30-26	6,271	sd. sh. drlg.
Shell Oil, No. 52-14-A KCL, Canal, Kern	14-30-25	8,350	flow 3,293 b.d.
Ohio Oil, No. 7-E KCL, Canal, Kern	14-30-25	8,260	flow 2,580 b.d.
Richfield Oil, No. 1 KCL, Tupman, Kern	32-30-25	3,387	sd. sh. drlg.
Ohio Oil, No. 8-A KCL, Buena Vista Lake, Kern	32-31-25	11,186	testing
Texas Co., No. 1 Pioneer, Midway-Sunset, Kern	33-11-23	8,869	dry; abd.
Midway Peerless Oil, No. 17, Midway-Sunset, Kern	15-31-22	1,207	pump 35 b.d.
Signal Oil, No. 5 Kendon, Midway-Sunset, Kern	35-32-23	1,950	br. sh. drlg.
Cates, M. B., No. 8 Special, Midway-Sunset, Kern	2-11-24	634	bailing
Mascot Oil, No. 3 Midway, Midway-Sunset Kern	36-32-23	2,828	P. B. 1,650
Magnuson, C. A., No. 1 Midway, Midway-Sunset, Kern	19-31-23	1,602	sd. sh. drlg.
Big Ten Oil, No. 12 Midway, Midway-Sunset, Kern	36-32-23	410	sd. sh. drlg.
National Oil, No. 18, Midway-Sunset, Kern	35-32-23	2,050	P. B. 2,042
Vanguard Oil, No. 1 Heavilin, Midway-Sunset, Kern	34-32-24	4,348	sd. sh. drlg.
Shell Oil, No. 4-26 KCL, San Emidio, Kern	26-11-22	10,205	sd. sh. drlg.
Richfield Oil, No. 1 KCL, Wheeler Ridge, Kern	28-11-20	5,597	sd. sh. drlg.
Pure Oil, No. 1 SPL, Huron, Fresno	31-18-17	11,270	hd. sh. drlg.
Magnet Oil, No. 2 Fearon, Fresno	18-20-15	3,550	sd. sh. drlg.
Jacalitos Oil, No. 1, Jacalitos Hills, Fresno	14-21-15	6,497	sd. sh. drlg.
Pet. Sec., No. 7-7-F, Guijarral Hills, Fresno	18-20-16	2,381	redrlg. 1,793
Pet. Sec., No. 88 Grimes, Guijarral Hills, Fresno	12-20-15	5,961	sd. sh. drlg.
Goetz, F. C., No. 1, Guijarral Hills, Fresno	10-25-15	4,696	sd. sh. drlg.
Standard Oil, No. 82-13 fee, Guijarral Hills, Fresno	13-20-15	132	sd. sh. drlg.
Texas Co., No. 19 Mohawk, Guijarral Hills, Fresno	12-20-15	3,984	sd. sh. drlg.
Universal Consd, No. 1 Leavitt, Guijarral Hills, Fresno	12-20-15	6,071	sd. sh. drlg.
Superior Oil, No. 1 Hight, Guijarral Hills, Fresno	8-20-16	4,693	sd. sh. drlg.
K.N.D.A., No. 38-6-Q Kettleman North, Kings	6-22-18	5,461	sd. sh. drlg.
K.N.D.A., No. 27-8-Q Kettleman North, Kings	6-22-18	6,030	br. sh. drlg.
K.N.D.A., No. 58-8-Q Kettleman North, Kings	8-22-18	6,097	br. sh drlg.
K.N.D.A., No. 27-16-Q Kettleman North, Kings	16-22-18	8,442	sd. sh. drlg.
K.N.D.A., No. 38-16-Q Kettleman North, Kings	16-22-18	4,781	sd. sh. drlg.
K.N.D.A., No. 43-20-Q Kettleman North, Kings	20-22-18	8,540	hd. sh. drlg.
K.N.D.A., No. 27-22-Q Kettleman North, Kings	22-22-18	7,960	hd. sd. drlg.
Standard Oil, No. 46-13-H, Kettleman North, Fresno	13-21-16	10,836	flow 195 b.d.
Standard Oil, No. 78-1-P, Kettleman North, Kings	1-22-17	8,040	flow 926 b.d.
Standard Oil, No. 21-13-P, Kettleman North, Kings	13-22-17	7,248	redrlg. 7,132
Standard Oil, No. 74-7-Q, Kettleman North, Kings	7-22-18	8,895	cmtd. 8,056
Standard Oil, No. 41-17-Q, Kettleman North, Kings	17-22-18	3,486	sd. sh. drlg.
Standard Oil, No. 61-21-Q, Kettleman North, Kings	21-22-18	6,276	sd. sh. drlg.
Irving, A. R., No. 1 Bisconer, Dudley Ridge, Kings	11-24-20	1,650	will deepen
Texas Co., No. 1 Lewis, King City, Monterey	13-19-5	1,872	cleaning out
Cal. Pet. Prod., No. 1 Jobe, Elkhorn, San Luis Obispo	6-10-24	2,140	sd. sh. drlg.
Cal Pet. Prod., No. 1 Irons, Elkhorn, San Luis Obispo	19-10-24	1,586	sd. sh. drlg.
Lee, H. E., No. 1 Defiance, Elkhorn, San Luis Obispo	7-32-22	100	sd. sh. drlg.
Vanguard Oil, No. 1 Creston, San Luis Obispo	26-27-14	4,475	resume work
Hancock Oil, No. 1 Dick, Huasna, San Luis Obispo	30-12-33	5,010	sd. sh. drlg.
Ohio Oil, No. 1-A Willard, Willows, Glenn	18-20-2	5,717	recmtd. 5,653

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtr., or St. sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting for cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

Amerada Pet., No. 1 California Lands, Colusa, Colusa	34-16-1	5,820	sd. sh. drlg.
Richfield Oil, No. 1, Potrero Hills, Solano	10- 4-1	3,373	well P. B.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location and county—	S.T.R.	Depth	Status
Sovereign Oil, No. 2 Community, El Segundo, L. Ang.	12- 3-5	6,697	sd. sh. drlg.
Sovereign Oil, No. 1 Coppinger, El Segundo, L. Ang.	12- 3-15	5,480	sd. sh. drlg.
Rolling Hills Oil, No. 1 Weston, Palos Verdes, L. Ang.	27- 4-14	4,915	sd. sh. drlg.
Gypsy Oil, No. 16 Getty, Torrance, Los Angeles	14- 4-14	5,008	rig to pump
Blue Bell Pet., No. 1 Young, Torrance, Los Angeles	23- 4-14	1,998	sd. sh. drlg.
Caldale Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	2,273	sd. sh. drlg.
Collier, P. V., No. 1 Smith, Torrance, Los Angeles	23- 4-14	3,605	will deepen
Consolidated Pet., No. 2, Torrance, Los Angeles	23- 4-14	4,961	flow 625 b.d.
Cal. Star Oil, No. 1-W, Torrance, Los Angeles	23- 4-14	3,772	will deepen
Coast Line Oil, No. 2 Barto, Torrance, Los Angeles	23- 4-14	4,960	sd. sh. drlg.
Camp, C. W., No. 13, Torrance, Los Angeles	23- 4-14	4,965	cleaning out
Cal-Oak Oil, No. 1 Devils, Torrance, Los Angeles	23- 4-14	4,920	sd. sh. drlg.
Calridge Oil, No. 1 Meyer, Torrance, Los Angeles	23- 4-14	5,012	P. B. 4,994
Dunphy, S. R., No. 1 Lomita, Torrance, Los Angeles	23- 4-14	4,280	sd. sh. drlg.
Eriksson, C., No. 3 Fortuna, Torrance, Los Angeles	23- 4-14	4,171	sd. sh. drlg.
Falma Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,980	sd. sh. drlg.
Foster Corp., No. 1 Thomas, Torrance, Los Angeles	23- 4-14	3,900	idle
Freeman Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	2,486	sd. sh. drlg.
H. D. Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,807	rigging up
Jewel Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	4,560	sd. sh. drlg.
Kenber Oil, No. 1 Berken, Torrance, Los Angeles	23- 4-14	3,795	cleaning out
Krause & Baker, No. 2 Gladys, Torrance, Los Angeles	14- 4-14	3,795	redrlg. 3,590
Kirk, W. A., No. 12 Lomita, Torrance, Los Angeles	23- 4-14	3,795	redrlg. 3,661
Kiesau & Ford, No. 1 Rhoads, Torrance, Los Angeles	23- 4-14	4,997	sd. sh. drlg.
Kovell Oil, No. 2 Lomita, Torrance, Los Angeles	22- 4-14	1,987	sd. sh. drlg.
Lomita Drlg., No. 2 Stevenson, Torrance, Los Angeles	22- 4-14	5,004	flow 690 b.d.
Lomita Drlg., No. 3 Hogan, Torrance, Los Angeles	23- 4-14	4,985	sd. sh. drlg.
McCowan, C. T., No. 1-A Lindis, Torrance, Los Angeles	23- 4-14	5,140	sd. sh. drlg.
Maldum Oil, No. 1 R.K., Torrance, Los Angeles	23- 4-14	3,770	rigging up
Morton & Elder, No. 1 Ritzer, Torrance, Los Angeles	23- 4-14	2,494	sd. sh. drlg.
McDonald & Burns, No. 2 Moore, Torrance, Los Ang.	23- 4-14	5,002	P. B. 4,975
McDonald & Burns, No. 9 Moore, Torrance, Los Ang.	23- 4-14	4,870	sd. sh. drlg.
McDonald & Burns, No. 10 Moore, Torrance, L. Ang.	23- 4-14	2,160	sd. sh. drlg.
McCaslin, W. E., No. 2, Torrance, Los Angeles	14- 4-14	4,920	sd. sh. drlg.
McWherter, C. L., No. 1 Lomita, Torrance, Los Ang.	23- 4-14	3,651	sd. sh. drlg.
M. P. S. Oil, No. 1 Julian, Torrance, Los Angeles	23- 4-14	3,801	redrlg. 2,990
Moon Oil, No. 2 Julian, Torrance, Los Angeles	23- 4-14	3,787	rigging up
O'Donnell, J. L., No. 42 Lomita, Torrance, Los Ang.	23- 4-14	4,297	sd. sh. drlg.
Pac. West Oil, No. 2 Marble, Torrance, Los Angeles	14- 4-14	4,596	sd. sh. drlg.
Peters Royalty, No. 2, Torrance, Los Angeles	14- 4-14	5,002	sd. sh. drlg.
Packard Pet, No. 2 Kelley, Torrance, Los Angeles	22- 4-14	4,950	flow 470 b.d.
Packard Pet., No. 3 Kelley, Torrance, Los Angeles	22- 4-14	4,660	sd. sh. drlg.
Rico Oil, No. 1 Victoria, Torrance, Los Angeles	23- 4-14	4,975	rig to pump
Standard Oil, No. 1-12 Marble, Torrance, Los Angeles	22- 4-14	4,281	cleaning out
Standard Oil, No. 1-13 Marble, Torrance, Los Angeles	22- 4-14	3,810	rigged up
Star Pet., No. 2 G & A, Torrance, Los Angeles	23- 4-14	4,861	redrlg. 4,690
Star Pet., No. 1 Patton, Torrance, Los Angeles	23- 4-14	1,998	sd. sh. drlg.
Star Pet., No. 1 Schatz, Torrance, Los Angeles	23- 4-14	3,680	sd. sh. drlg
Sol Oil, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	5,183	O S. drlg.
Sonwell Oil, No. 4, Torrance, Los Angeles	23- 4-14	3,496	sd. sh. drlg.
Silver Strand Oil, No. 1, Torrance, Los Angeles	22- 4-14	4,960	sd. sh. drlg.
Texas Co., No. 11 Wilson, Torrance, Los Angeles	14- 4-14	5,026	P. B. 4,965
Texas Co., No. 12 Wilson, Torrance, Los Angeles	22- 4-14	4,900	sd. sh. drlg.
Imperial Gypsum, No. 2 Getty, Torrance, Los Angeles	14- 4-14	5,060	sd. sh. drlg.
Imperial Gypsum, No. 3 Getty, Torrance, Los Angeles	14- 4-14	3,747	rigging up
Wertalla, Henry, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	3,998	sd. sh. drlg.
Wilton Oil, No. 5, Torrance, Los Angeles	22- 4-14	4,896	sd. sh. drlg.
Woolner Oil, No. 4 Lomita, Torrance, Los Angeles	15- 4-14	4,986	sd. sh. drlg.
Young & Bryan, No. 1 Lomita, Torrance, Los Angeles	23- 4-14	2,097	sd. sh. drlg.
C. C. M. O. Co., No. 8, Torrance, Los Angeles	15- 4-14	4,160	P. B. 4,030
C. C. M. O. Co., No. 16, Torrance, Los Angeles	14- 4-14	4,181	sd. sh. drlg.
Isco Pet., No. 1 Block, Harbor City, Los Angeles	30- 4-13	3,590	sd. sh. drlg.
Union Oil, No. 58 Callender, Dominguez, Los Angeles	33- 3-13	7,550	redrlg. 7,180
Union Oil, No. 61 Callender, Dominguez, Los Angeles	32- 3-13	1,958	sd. sh. drlg.
Union Oil, No. 62 Callender, Dominguez, Los Angeles	33- 3-13	7,920	sd. sh. drlg.
Shell Oil, No. 95 Reyes, Dominguez, Los Angeles	33- 3-13	8,209	O. S. drlg.
Shell Oil, No. 96 Reyes, Dominguez, Los Angeles	33- 3-13	2,050	cmtd. 961
Barnsdall Oil, No. 5 Trust, Rosecrans, Los Angeles	18- 3-13	5,380	sd. sh. drlg
Barnsdall Oil, No. 9 Rosecrans, Rosecrans, Los Ang.	18- 3-13	7,857	O S. drlg.
Union Oil, No. 21 Rosecrans, Rosecrans, Los Angeles	19- 3-13	7,493	sd. sh. drlg.
Union Oil, No. 22 Rosecrans, Rosecrans, Los Angeles	18- 3-13	7,875	sd. sh. drlg.
Universal Consd., No. 4 Trust, Rosecrans, Los Ang.	18- 3-13	7,880	flow 1,730 b.d.
Superior Oil, No. 9 Maxwell, Rosecrans, Los Angeles	20- 3-13	6,591	sd. sh. drlg.
Tide Water A., No. 1 Porter, San Fernando, Los Ang.	27- 3-16	2,322	hd. sd. drlg.
Royal Lands, No. 1 Ramona, Castaic, Los Angeles	8- 4-17	962	sd. sh. drlg.
General Pet., No. 3-6-C.C., Wilmington, Los Angeles	2- 5-13	3,170	flow 140 b.d.
General Pet., No. 40 Harbor, Wilmington, Los Ang.	2- 5-13	3,015	flow 160 b.d.
General Pet., No. 43 Harbor, Wilmington, Los Ang.	2- 5-13	2,086	sd. sh. drlg.
General Pet., No. 1 P.E., Wilmington, Los Angeles	2- 5-13	3,676	O. S. drlg.
Allied Pet., No. 22, Wilmington, Los Angeles	33- 4-13	1,984	sd. sh. drlg.
Burns Oil, No. 1, Wilmington, Los Angeles	32- 4-13	3,671	sd. sh. drlg.
Crail Bros., No. 1 Mackallister, Wilmington, Los Ang.	33- 4-13	5,750	sd. sh. drlg.
Colter, B. T., No. 6 Colter, Wilmington, Los Angeles	32- 4-13	2,392	sd. sh. drlg.
Hancock Oil, No. 12-B, Wilmington, Los Angeles	2- 5-13	2,575	sd. sh. drlg.
Hancock Oil, No. 24-C, Wilmington, Los Angeles	2- 5-13	4,192	P. B. 4,065
Hancock Oil, No. 7-D, Wilmington, Los Angeles	2- 5-13	3,025	sd. sh. drlg.
O'Kane & Brain, No. 1 L.B.H.D., Wilmington, L. Ang.	2- 5-13	2,650	sd. sh. drlg.
O'Kane & Brain, No. 2 L.B.H.D., Wilmington, L. Ang.	2- 5-13	2,910	sd. sh. drlg.
Richfield Oil, No. 1-P.D., Wilmington, Los Angeles	2- 5-13	4,385	O. S. drlg.
Richfield Oil, No. 4-P.B., Wilmington, Los Angeles	2- 5-13	4,241	sd. sh. drlg.
Richfield Oil, No. 7-P.D., Wilmington, Los Angeles	2- 5-13	4,235	locate water
Richfield Oil, No. 8-P.D., Wilmington, Los Angeles	2- 5-13	3,620	O. S. drlg.
Richfield Oil, No. 9-P.D., Wilmington, Los Angeles	2- 5-13	3,636	sd. sh. drlg.
Richfield Oil, No. 3-P.G., Wilmington, Los Angeles	2- 5-13	4,387	P. B. 2,897
Selegna Oil, No. 17 Harbor, Wilmington, Los Angeles	32- 4-13	3,728	flow 185 b.d.
Tide Water A., No. 1 Banning, Wilmington, Los Ang.	29- 4-13	6,739	hd. sh. drlg.
Universal Consd., No. 1 Newport, Wilmington, L. Ang.	2- 5-13	4,100	sd. sh. drlg.
Union Pacific, No. 85, Wilmington, Los Angeles	3- 5-13	3,995	sd. sh. drlg.
Union Pacific, No. 87, Wilmington, Los Angeles	3- 5-13	3,955	O. S. drlg.
Union Pacific, No. 89, Wilmington, Los Angeles	4- 5-13	2,184	sd. sh. drlg.
Union Pacific, No. 11-E, Wilmington, Los Angeles	3- 5-13	3,942	flow 1,680 b.d.
Union Pacific, No. 3-P.D., Wilmington, Los Angeles	3- 5-13	4,110	P. B. 3,804
Wilbur, V. R., No. 3 S. F., Wilmington, Los Angeles	33- 4-13	2,394	sd. sh. drlg.
St. Helens Pet., No. 28 Monterey, Montebello, L. Ang.	2- 2-12	5,600	sd. sh. drlg.
St. Helens Pet., No. 2 Eggleston, Montebello, L. Ang.	2- 2-12	5,360	sd. sh. drlg.
Union Oil, No. 2 Wilcox, Montebello, Los Angeles	2- 2-12	3,052	sd. sh. drlg.
Union Oil, No. 2 Paul Howard, Montebello, Los Ang.	2- 2-12	5,397	sd. sh. drlg.
V-8 Oil, No. 1 Estelle, Montebello, Los Angeles	2- 2-12	6,263	O. S. drlg.
West Mon. Oil, No. 2 Seavers, Montebello, Los Angeles	2- 2-12	5,281	sd. sh. drlg.
Mon. Wesco, Inc., No. 1 Seavers, Montebello, Los Ang.	2- 2-12	1,962	sd. sh. drlg.
Standard Oil, No. 1 McDonald, Montebello, Los Ang.	2- 2-12	6,254	sd. sh. drlg.
McVicar & Rood, No. 2 Manz, Montebello, Los Angeles	2- 2-12	6,267	O. S. drlg.
Brookline Oil, No. 1 Drake, Montebello, Los Angeles	2- 2-12	6,444	cleaning out
Security L. & W., No. 1 Tobey, Whittier, Los Angeles	8- 2-11	1,560	cleaning out
Hilldon Oil, No. 4-B-P, North Long Beach, Los Ang.	13- 4-13	1,876	sd. sh. drlg.
Johnston Drlg., No. 34, Long Beach, Los Angeles	13- 4-13	4,552	sd. sh. drlg.
Texas Co., No. 2-3 Foster, Long Beach, Los Angeles	29- 4-12	3,674	sd. sh. drlg.
De Soto Oil, No. 1, Long Beach, Los Angeles	30- 4-12	5,561	sd. sh. drlg.
Texas Co., No. 3 Alamitos, Seal Beach, Orange	3- 5-12	5,225	sd. sh. drlg.
Brea Canyon Oil, No. 48, Brea Canyon, Orange Co.	2- 3-10	5,064	sd. sh. drlg.
Battersby, J. M., No. 1 Carmenita, Orange Co.	21- 3-11	6,440	hd. sh. drlg.
Severns Drlg., No. 1-A McNally, West Coyote, Orange	24- 3-11	4,139	sd. sh. drlg.
Standard Oil, No. 3 Bastanchury, West Coyote, Orange	16- 3-10	120	sd. sh. drlg.
Alford Dev., No. 1 Yorba, Richfield, Orange	29- 3-9	3,583	sd. sh. drlg.
Shell Oil, No. 1 Cuff, Richfield, Orange	29- 3-9	3,096	P. B. 2,825
Shell Oil, No. 1 Swain, Richfield, Orange	28- 3-9	2,390	sd. sh. drlg.
Shell Oil, No. 1 Hemphill, Richfield, Orange	30- 3-9	2,900	sd. sh. drlg.
Brown & Co., No. 2 Hurley, Yorba, Orange	22- 3-9	1,780	idle
Beth Oil, No. 1 Dillingham, Yorba, Orange	21- 3-9	2,338	rig to pump
Richfield Consd. Oil, No. 2 Todd, Yorba, Orange	21- 3-9	1,583	sd. sh. drlg.
A. V. Oil, No. 1, Costa Mesa, Orange	16- 6-10	4,220	sd. sh. drlg.
Congress Oil, No. 1, Santa Ana, Orange	36- 3-9	2,980	rig to pump

OKLAHOMA

Week Ending August 6

NORTHERN OKLAHOMA

Coal County

Carter et al No. 1 Mote, C E½ SW NW sec. 19-2-9. Drlg. 5,538 ft.

Comanche County

E. N. Eldridge No. 1 Aetna Life, SW SE SW sec. 2-1-10w. S.D. 450 ft.
Midnite O. & G. Co. No. 1 Howe, NW NW NW sec. 20-2n-12w. Drlg. 510 ft.

Garfield County

I.T.I.O. No. 1 Kechin, C SE SE sec. 17-22-5w. T.D. 5,196 ft.; fsg.

Garvin County

H. R. Hollenbach et al No. 1 Butterly, NE NE SE sec. 22-1n-1e. 3,218,000 ft. gas; drlg. 3,205 ft.; S.D.; repairs.

Hughes County

City of Holdenville No. 1 Fairgrounds, SE SE SE sec. 13-7-8. T.D. 1,097 ft.; top pay 1,090 ft.; shot and pmp. 12 B.O.P.D.

Kay County

Champlin Ref. Co. No. 1 Boehm, SW SW NE sec. 24-27-4. Drlg. 5,890 ft.
Clark C. Nye No. 1 Willin, SE SE SW sec. 24-27-4. Cg. 3,016 ft.; S.S.O.&G.; S.D. for mach.

Kiowa County

Anderson-Prichard Oil Corp. No. 1 Sch. Ld., SE SE SE sec. 14-6n-17w. Drlg. 1,625 ft.
Hughes & Reese No. 1 Fultz, SE SE SE sec. 10-6-18w. T.D. new hole 1,238 ft.; drlg. by tools.

Lincoln County

Indian States No. 1 Bailey, NW NW NE sec. 2-12-5. T.D. 4,238 ft.; W.O.C.

Noble County

H. R. Hollenback No. 1 Mathews, C SW NW sec. 9-20-1. T.D. 2,140 ft.; S.D.
Texas-Canadian Oil Corp. No. 1 Schultz, NE NE NE sec. 29-23-1w. Wilcox 5,-062-95 ft.; second Wilcox 5,138-42 ft., T.D.; D.&A.

Okfuskee County

Amerada No. 1 Conard, NE NW SW sec. 33-10-10. Cg. at 3,266 ft.
C. W. Titus No. 1 Lehmar, C NE NE sec. 26-11-8. T.D. 3,481 ft., sd.; flw. 185 B.O. in 18 hrs. by hds.; 38 grav.; S.I.

Oklahoma County

Fain Drlg. No. 1 Little, SW SW NE sec. 28-11-3w. Dolo. 6,765 ft.; second Wilcox 6,952-74 ft., T.D.; rng. Schlumberger.
Olson Oil No. 1 L. Vaneck, SE SW NW sec. 4-12-3w. T.D. 6,531 ft.; installing B.O. preventer.

Osage County

Chevalier-Simon No. 1 Osage, NW NW SW sec. 33-27-5. Drlg. Miss. L. 3,330 ft.
Norbia Oil Co. No. 1 Osage, SE cor. sec. 18-25-7. T.D. 2,784 ft.

Payne County

Sinclair-Prairie No. 1 McQuain, NE NW NE sec. 22-19-1. Drlg. 2,970 ft.

Pittsburg County

Supreme Oil Corp. No. 1 Hickey, NW SW NW sec. 4-2-15. T.D. 1,040 ft.; S.D.

Pontotoc County

Farmers Mutual Royalty Corp. No. 1 Waite, NE NE NW sec. 9-5-5. Wilcox sd. 3,200 ft.; T.D. 3,234 ft.; P.B. to 2,880 ft.; swb. est. 97 B.O. and 97 B. W. in 24 hrs.; P.O.P.
Jack Lynch et al No. 1-A Parker, SW SW SE sec. 17-4-8. T.D. 4,572 ft.; P.B. 4,490 ft.; rip in csg.; P.B. 4,090 ft.; S.D.
H. Z. Moore No. 1 Payne, SE NW SE sec. 16-4-4. W.O.C. 997 ft.
Pierce & Morgan No. 1 Kroeger, SE NE SW sec. 30-5-7. T.D. 2,335 ft.; R.U.S.T.
Union Dev. Co. No. 1-A Abbott, SW NW NE sec. 34-3-6. T.D. 2,013 ft.; S.D.

Pottawatomie County

Atlantic Ref. Co. No. 1-A McCurry, NW NE SW sec. 6-6-4. Viola 4,187 ft.; T. D. 4,210 ft.; rng. csg.

Seminole County

Boetcher O. & G. No. 1 Morgan, SE NE NW sec. 8-5n-7. Drlg. 1,880 ft.
Burk-Greis No. 1 Blevins, SW NW SW sec. 28-10-7. Drlg. 2,450 ft.
Farmers Mutual Royalty Corp. No. 1 Sch. Ld., SE SE NW sec. 16-5-5. T.D. 2,276 ft.; swb. 120 B.O. in 24 hrs.; P.O.P.
Indian States et al No. 1 Johnson, NE SE NE sec. 2-6-5. T.D. 3,004 ft.; P.B. 2,850 ft.; shot and S.D.O.
Simpson-Roodhouse No. 1-A Fleet, NW NW NW sec. 27-7-5. T.D. 3,226 ft.; S.S.O.; D.&A.
Southern Oil Co. No. 1 Rainey, NW NE SE sec. 12-7-5. T.D. 3,907 ft.; D.&A.
Young & Newsom No. 1 Edgeman, SE SE SE sec. 17-7-6. Drlg. 4,353 ft.

Washita County

L. B. McWhirter No. 1 fee, NW SW SW sec. 34-8-19w. T.D. 2,162 ft.; fsg.

SOUTHERN OKLAHOMA

Atoka County

C. M. Sheldon and Gardner Pet. Co. No. 1 Lee, NE NW SW sec. 2-4s-10e. Arb. 2,843 ft.; drlg. 3,410 ft.

Choctaw County

Clyde Ross et al No. 1 Hardy, SE SE NW sec. 21-7s-15. Drlg. plug 905 ft.

Love County

Sinclair Prairie Oil Co. No. 1 Peabody, NE cor. sec. 35-6s-2w. T.D. 5,961 ft.; drlg. 5,835 ft., new hole.

KANSAS

Week Ending August 6 (Descriptions are East unless marked otherwise)

Barton County

Crown Pet. Corp. No. 1 Wolf, SE SW SE sec. 36-19-12w. T.D. 3,358 ft.; acd. and cmtg.; O.I.H.; W.O.C.
Gardner & Murfin No. 1 Krug, SW SE sec. 16-16-13w. T.D. 3,414 ft.; top pay 3,411 ft.; W.O.C.

Butler County

Virgil Hicks No. 1 Heyman, NW SW NW sec. 33-23-5. Drlg. 2,575 ft.
National Ref. No. 1 Wentz, SE NE NW sec. 7-27-6. Drlg. 3,205 ft.
Pryor & Lockhart No. 1 Lietzke, NE SW NW sec. 24-28-7. Drlg. 650 ft.
Simpson Oil No. 1 Equitable Life Ins., SW sec. 15-25-3. Drlg. 2,510 ft.
Max Steinbuchel et al No. 1 Fox, NW SE NE sec. 25-26-3. Drlg. 3,195 ft.

Cowley County

McKnob et al No. 1 O'Neil, NW NW SE sec. 27-32-3. Drlg. 1,000 ft.

Ellis County

Carter Oil No. 1 Sottschalk, NW SE sec. 36-15-18w. Drlg. 2,995 ft.
C. B. Davis No. 1 Smith, SW NW NE sec. 11-12-16w. Drlg. 2,600 ft.

Ford County

Sinclair Prairie Oil Co. No. 1 Young, CSL NE sec. 34-27-21w. Viola 5,350 ft.; dolomite at 5,512 ft.; Wilcox 5,-617 ft.; Arb. 5,629 ft.; T.D. 5,930 ft.; P.B. 5,025 ft.; flwd. 56 B.F. in 8 hrs.; S.I.

Graham County

C. E. Schlemeyer No. 1 Belveal, C SE NW sec. 3-8-24w. Drlg. 4,236 ft.

Greenwood County

Z. Dunalp et al No. 1 Warren, NW NW SW sec. 4-28-10. Drlg. 630 ft.
Fullerton et al No. 1 Bates, NE SW SE sec. 32-26-11. Drlg. 20 ft.

Jackson County

Haverback et al No. 1 Marble Bank, C NE NE sec. 26-9-14. H.F.W.; drlg. 2,750 ft.

Kingman County

Bunte Bros. No. 1 Shepard, SE SE SE sec. 10-27-10w. Arb. 4,488 ft.; T.D. 4,529 ft.

McPherson County

Marylyn Oil No. 1 Dixon, NW NE NW sec. 7-19-2w. Drlg. 1,700 ft.

Marion County

Johnson et al No. 1-A Miltz, SW SW SW sec. 24-17-4. T.D. 1,700 ft.; U.R.
Harwood Oil Co. No. 1 Kaufman, NW NW SE sec. 27-17-4. Drlg. 1,240 ft.

Mead County

Cragin, Reeuscher & Turner No. 1 Adams, NW NW SE sec. 22-34-30w. T.D. 200 ft.; R.U.R.
Pacific Midwest Oil No. 1 Rexford, NE SE SW sec. 8-30-29w. T.D. 1,150 ft.; U.R.

Ness County

Mid-Continent Oil Co. No. 1 Collins, NW NW sec. 24-20-26w. S.S.O. at 4,290 ft.; T.D. 4,555 ft.; S.D.
Sinclair-Prairie No. 1 McKinley "A," SW NW sec. 26-18-26w. Drlg. 630 ft.

Ottawa County

Babcock Oil No. 1 Copeman, NW NW sec. 18-10-2w. Drlg. 1,718 ft.

Reno County

Carter Oil Co. No. 8 Hogan, NW SE SW sec. 19-24-42. Drlg. 340 ft.
L. E. Douglas et al No. 1 Durand SE SE SW sec. 3-23-5w. S.D. 3,600 ft.

Rice County

Cities Service No. 1 Flora, SW SW NE sec. 12-19-10w. Drlg. 1,540 ft.
Cities Service No. 1 Frees, CL S½ NW sec. 20-18-9w. W.O.C. 310 ft.
Duwe & Farris No. 1 Remmert, SW NW sec. 3-18-9w. Drlg. 3,105 ft.
Marylyn Oil Co. et al No. 1 Vincent, NW NW NE sec. 5-21-10w. Drlg. 3,357 ft.

Riley County

Coronado Oil et al No. 1 Parks, SE SE sec. 16-10-8. Drlg. 1,910 ft.

Rooks County

Fred Haines et al No. 1 Don, SE SE SW sec. 13-9s-16w. Drlg. 2,845 ft.
J. J. Hall No. 1 Kruse, SE NE sec. 3-10-16w. T.D. 3,126 ft.; P.B. 3,110 ft.; pmp. 45 B.O. and 45 B.W. in 24 hrs.; drlg. 3,194 ft.
Power-Olson Oil Co. No. 1 Hammond, C SW sec. 34-6-19w. Drlg. 2,857 ft.
Producers Oil No. 1 Ham, SW NW sec. 25-7-19w. Drlg. 1,795 ft.

Rush County

Phillips Pet. Co. No. 1 John Kees, C SE SE sec. 3-19-20w. T.D. 2,500 ft.; S.D. for csg.

Russell County

Aylward Prod. Co. No. 1 Salbach, SE NE sec. 31-14-14w. Arb. 3,143 ft.; pay 3,149 ft.; T.D. 3,154 ft.; pmp. 142 B. O. in 4 hrs.
Coralena No. 1 Hefferman, NE SE SW sec. 34-14-13w. P.B. 2,900 ft.; cmtg. T.D. 3,026 ft.
J. J. Hall No. 1 Landon, SW SE sec. 11-15-14w. T.D. 3,100 ft.; 1,800 ft. O.I.H.; W.O.C.
Geo. Hinkle No. 1 Kaufman, SE NW sec. 10-15-12w. Drlg. 1,440 ft.
R. H. Shields No. 1 Anschutz, SW SE sec. 2-14-13w. Drlg. 3,362 ft.
R. H. Shields No. 1 Rogg, CEL W½ NW sec. 9-15-13w. Pay 3,000 ft.; T.D. 3,033 ft.; 600 ft. O.I.H. in 18 hrs.
Stearns No. 1 Stielow, NW cor. sec. 32-11-14w. Drlg. 2,780 ft.

Sedgwick County

Frank Hudson et al No. 1 Fulton, NE SE sec. 35-28-1e. T.D. 2,285 ft.; C.O.
Natl. Ref. No. 1 Trustee, SE NE sec. 8-27-2. T.D. 3,258 ft.; 2,200 ft. O.I.H. in 2 days.
Union O. & R. Co. et al No. 1 Howell, SW cor. sec. 6-29-1e. S.D. 3,550 ft.

Stafford County

Atlantic Ref. Co. No. 1 Wise, NW cor. sec. 13-24-14w. T.D. 3,650 ft.; 1,500 ft. O.I.H.
Cities Service No. 1 Smith, CWL SW sec. 16-21-11w. T.D. 3,412 ft.; 2,600 ft. O.I.H.
H. L. Rowley No. 1 Sittner, SE SE NE sec. 35-21-12w. Drlg. 1,925 ft.

Sumner County

Murphy et al No. 1 Tate, SE NW sec. 31-32-2e. T.D. 3,747 ft.; Arb.; 2,040 ft. pay 3,733-36 ft.; T.D. 3,747 ft.; pmpg. 2½ B.O.P.H.

Woodson County

Joe Nathan No. 1 Ellis, NW NW SE sec. 35-25-14. Drlg. 510 ft.

ARKANSAS

Calhoun County

C. E. Murdock No. 1 Southern Kraft Corp., SE cor. NW NW sec. 17-14-13. T.D. 10 ft.; drlg. wtr. well.

Cleveland County

W. E. Allaum, Tr., No. 1 Moore Est., SW cor. SE NW sec. 34-9-10. Set 10¾-in. 170 ft.; T.D. 730 ft.; wtr. sd.; S.D.

Columbia County

Atlantic Ref. Co. No. 1 Baker, C SE NW sec. 13-17-20. Top chk. 2,130 ft.; rmg. to bttm. 2,138 ft.
Atlantic Ref. Co. No. 1 Harrington, C SW NW sec. 14-17-20. Top anhy. 3,149 ft.; bttm. anhy. 3,235 ft.; S.D.; wtr. 3,531 ft.
Fohs Oil Co. No. 1 Phillips, C NW SW sec. 15-17-19. D.S.T. 7,357-89 ft.; 15½ min.; ¼-in. cks. top and bttm.; rec. 15 ft. oil and 100 ft. S.W.; 275 ft. drlg. fluid; W.P. 600 lbs.; rmd. to 7,383 ft.; D.S.T. 7,383-89 ft.; 35 min.; ⅝-in. cks. top and bttm.; rec. 2,500 ft. oil, 360 ft. mud and 120 ft. S.W.; set 7-in. csg. 7,412 ft.; T.D. 7,424 ft.; perf. 7,380-85 ft.; D.S.T.; set pkr. 7,375 ft. open at top; ¼-in. ck. on bttm.; flwd. S.W. and very slight S.O. after 51 min.; flwd. for 45 min.; S.W.; recmtd. csg. to reperf. higher.
Pet. Finance Co. No. 1 Baker, C SW NW sec. 13-17-20. Drlg. 2,306 ft.
Standard Oil Co. of La. No. 1 T. Crumpler, sec. 15-17-19. Cg. 7,447 ft.; top por. oolitic L. 7,380 ft.
Standard Oil Co. of La. No. 3 McKean, NE SE sec. 7-16-22. Set 6-in. csg. 7,205 ft.; T.D. 7,257 ft.; tstg. csg.; to drill plug.
G. H. Vaughn No. 1 Garrett, C NE SE sec. 14-17-20. R.U.
O. F. Whittaker No. 1 C. C. Hall, 70 ft. W line, 52 ft. S line, NW NW sec. 11-15-20. Set 6-in. csg. 2,116 ft.; W.O. pmp.; comp.; pmpg. 12 B.P.D.; C.O.; T.D. 2,176 ft.

Craighead County

Tannark, Inc., No. 1 Ruby M. Martin, 580 ft. N line, 80 ft. E line, sec. 35-14n-3e. T.D. 1,734 ft.; ran 8⅝-in. csg. 1,700 ft.

Crittendon County

Stanley Oil Corp. No. 1 Danner hrs., O.W.W.O.; old T.D. 2,790 ft.; rng. 4-in. csg. to set on bttm.; will use 1 jt. perf. csg. 3,219-3,176 ft.; T.D. 3,351 ft.

Lafayette County

Standard Oil Co. of La. No. 1 J. L. Warren, 1,980 ft. E line, 610 ft. N line, sec. 18-16-22. Top anhy. 3,279 ft.; T.D. 7,254 ft., L.; acdzd. with 5,000 gal.; swbg.

Little River County

M. E. Sanderson No. 1 Pinny; O.W.W.O.; reported abd. 1,300 ft.; NE cor. NE SW sec. 6-13-30. S.D. 1,324 ft.
Joe G. Straham et al No. 2 Dierks Lbr. Co. Top L. 2,425 ft.; S.D. 3,225 ft.

Miller County—Rodessa

F. W. Burford No. 1 H. C. Mitchell, NW cor. NW NE sec. 11-20-28. Drlg. L.& anhy. 5,827 ft.
Gerhig Co. No. 1 H. C. Mitchell, SE SW sec. 2-20-28. Set 5½-in. csg. 6,164 ft.; T.D. hd. L. 6,170 ft.; comp.; 560 B. P.D.; ½-in. ck.; T.P. 100 lbs.; C.P. 600 lbs.; perf. 5½-in. csg. 6,132-64 ft.
Hill & Eastabrook No. 1 Sherman, SW NW sec. 29-19-28. Drlg. L.&anhy. 5,790 ft.
Red River Valley Oil Co. No. 1 Beck, sec. 34-15-26. S.D. sd.&sh. 2,948 ft.

Nevada County

Texas Canadian Oil Corp. No. 1 Stocks, C NW SE sec. 9-15s-22w. Drlg. 50 ft.
B. L. Webb No. 1 Boswell, sec. 5-14-20. D.&A.; T.D. sh. 2,198 ft.
Bruce E. Wallace No. 2 Haynie, SE cor. SE NE sec. 5-14-21. Sdy. sh. 1,194-1,204 ft.; tstd. mud, S.W. and oil 1,198-1,214 ft.; 30 min.; W.O.; T.D. 1,214 ft. set 6-in. csg. 1,198 ft.; swbd. est. 10 bbls. oil; C.O. 1,214 ft.

Pulaski County

Coker Oil Corp. No. 1 Stone, sec. 36-3n-11w. S.D. 905 ft.
A. L. Kitselman No. 2 A. L. Kitselman, Jr., SE SE SW sec. 2-1s-13e. T.D. 2,900 ft.; lost circ.; P.B. surf.; drlg. hd gmy. slate 3,204 ft.

Union County—Schuler

Atlantic Ref. Co. No. 1 Rogers, sec. 16-18-17. Drlg. rd. sdy. sh. 6,951 ft.
Crescent Drlg. Co. No. 1 Lewis, SE SW sec. 16-18-17. Drlg. 2,100 ft.
E. M. Jones No. 1 C. H. Murphy, NW cor. Lot 6, NW sec. 19-18-17. O.W.D. D.; drlg. rd.&gr. sh. 6,438 ft.
E. M. Jones No. 2 Rogers, SW SW sec. 16-18-17. Drlg. rd. sdy. sh. 7,533 ft.
Lion Oil Ref. Co. No. 1 Dee, sec. 17-18-17. Drlg. 7,665 ft.; set 7-in. 7,656 ft.
Lion Oil Ref. Co. No. 2 Marcus, 330 ft. SE cor. Lot 3, SE sec. 18-18-17. Top Jones sd. 7,521 ft.; top L. 7,621-89 ft.; set 7-in. csg. 7,713 ft.; T.D. 7,720 ft.
Lion Oil Ref. Co. No. 3 Marcus, SW cor. Lot 5, NW sec. 18-18-17. Drlg. rd. sdy. sh. 7,517 ft.
Lion Oil Ref. Co. No. 4 Marcus, NW cor. Lot 3, SW sec. 18-18-17. Drlg. rd.&gr. sh. 5,543 ft.
Lion Oil Ref. Co. No. 2 Marine Oil Co., SE cor. Lot 1, SW sec. 7-18-17. Drlg. 3,485 ft.
Lion Oil Ref. Co. No. 1 Natl., NW cor. NE SW sec. 17-18-17. Drlg. 1,900 ft.
Lion Oil Ref. Co. No. 2 Nelson, Lot 5, sec. 18-18-17. Drlg. rd. gmy. sh. 3,585 ft.
Lion Oil Ref. Co. No. 1 H. P. Sewell, NE cor. Lot 4, NW sec. 18-18-17. Set 10¾-in. csg. 1,902 ft.
Marine Oil Co. No. 1 Calloway, SE cor. Lot 4, NW sec. 18-18-17. Top Jones sd. 7,537 ft.; top L. 7,638 ft.; set 7-in. csg. 7,660 ft.; T.D. 7,700 ft.; comp. 759 B.P.D.; 20/64-in. ck. 12 hrs.; and 12/64-in. ck. 12 hrs.; T.P. 800 lbs.; C. P. 1,060 lbs.; perf. 7,589-7,614 ft.
Marine Oil Co. No. 2 J. H. Calloway, NW cor. E½ SE NE sec. 13-18-18. Set 16-in. csg. 142 ft.; T.D. 152 ft.
Phillips Pet. Co. No. 3 Marks, C Lot 2 Top Jones sd. 7,504 ft.; top L. 7,608 ft.; set 7-in. csg. 7,784 ft.; T.D. 7,806 ft. perf. csg. 7,648-55 ft.; flwd. 181 B.P. H.; ⅛-in. ck.; T.P. 1,200 lbs.; C.P. 2,450 lbs.; at gas-oil ratio 700/1; killed; set cmt. retainer 7,640 ft. and recmtd.; perf. 7,650-55 ft. and 7,661-63 ft.; flwg. 296 bbls.; 24/64-in. ck. in 18½ hrs.; tstd. 78% S.W.; recmtd. and perf. 7,650-54 ft.; comp.; 385 B.P.D.; 7/64-in. ck.; T.P. 250 lbs.; C.P. 260 lbs.; gas-oil ratio 7,806 ft.
Phillips Pet. Co. No. 4 Marks, sec. 18-18-17. Top L. 7,625 ft.; 7-in. csg. 7,671 ft.; T.D. 7,700 ft.; comp.; 410 B.P.D.; 24/64-in. ck.; T.P. 300 lbs.; C.P. 900 lbs.; perf. 7,573-97 ft.
Phillips Pet. Co. No. 1 Miller, NE cor., Lot 4, SW sec. 18-18-17. Drlg. rd. gmy. sh. 6,307 ft.
Phillips Pet. Co. No. 1 Sewell, SW cor., Lot 5, SW sec. 7-18-17. Drlg. rd.&gr. sh. 6,448 ft.
Roberts & Murphy No. 2 C. D. Justiss, NW cor. Lot 6, SW sec. 7-18-17. R.U.

Union County—Other

J. R. Lockhart No. 1 Rauiston, sec. 12-17-14. Cd. oil sd. 3,160-75 ft.; D.S.T. 3,172-75 ft.; rec. drlg. fluid and S.W.; cd. 3,175-85 ft.; S.O.; salty taste; set 7-in. csg. 3,077 ft.; perf. 3,002-07 ft.; tstd. 2,750 ft. S.W.; reperf. 2,967-73 ft.; blew wild; est. 500 bbls. S.W.; P.B. 2,700 ft.; drld. out cmt. 2,980 ft.; perf. 2,968-76 ft.; set pkr. 2,960 ft.; tstd. 1,500,000 ft. gas; W.O.
Joe Modisette et al No. 2 Union Sawmill Co., sec. 8-18-12. T.D. 3,354 ft.; S.W. sd. 3,554-67 ft.; ran Schlumberger and set 9⅝-in. csg. 3,009 ft.; drlg. sd. 5,100 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville County

DeSoto O. & G. Co. No. 1 Fleming, C NW NW sec. 18-16-9. Drlg. sh.&L. 3,800 ft.

Bossier Parish

W. M. Chambers No. 1 Thomas, SE cor. sec. 10-22-11. R.U.
C. H. French No. 1 Weaver, sec. 14-19-11. Set 6⅝-in. csg. 377 ft.
Premier Inv. Co. No. 1 Community Corp., sec. 22-19-11. S.D. 310 ft.
Premier Inv. Co. No. 1 Connell, SE cor. sec. 15-19-11. Comp.; 15 B.P.D. on pmp.; T.D. 383 ft.
Premier Inv. Co. No. 2 Connell, NE cor. SE SE sec. 15-19-11. T.D. 374 ft.; comp. on pmp.; 20 B.P.D.
Premier Inv. Co. No. 3 Connell, NE cor. SE SE sec. 15-19-11. W.O.S.R. 2,384 ft.
Premier Inv. Co. No. 1 McDade, SE SW NE sec. 28-19-11. Tstd. est. 1,000,000 ft. gas; S.I.; T.D. 2,374 ft.; top oolitic L. 2,345 ft.; set 5½-in. csg. 2,300 ft without cmt.; set 7-in. csg. 2,026 ft. without cmt.; tstd. est. 1,000,000 ft. gas, S.S.O.; W.O.S.R.
Premier Inv. Co. No. 44 Wyche, SE cor. NW sec. 14-19-11. T.D. 394 ft.; comp.; pmpg. 30 B.P.D.
Premier Inv. Co. No. 52 Wyche, NW cor. sec. 14-19-11. Set 10¾-in. csg. 96 ft.; T.D. 110 ft.
Sloan, Lloyd et al No. 1 Sherrill, sec. 12-19-12. T.D. 780 ft.; set 5½-n. 778 ft.; trtd. with 1,000 gal. acd.; tstd. dry; W.O.
Triangle Drlg. Co. No. 1-A R. O. Roy, SW cor. NW sec. 18-17-11. Drlg. sh. 775 ft.

Caddo Parish

J. W. Bailey No. 2 Caddo Lvy. Bd., SE cor. sec. 36-21-16. R.U.
Carney et al No. 1 Hart. Set 6-in. csg. 1,037 ft.; tstd. S.W. 1,038 ft.; S.D.; W.O.
J. E. Carroll et al No. 1 Stiles, SW cor. NE sec. 17-21-16. Set 6-in. csg. 1,009 ft.; tstg. 1,014 ft.
W. D. Chew No. 3 Stiles, sec. 33-21-16. Set 6-in. csg. 1,852 ft.; W.O.S.R. 1,985 ft.
Paul Cooper et al No. 1 Stiles, SE cor. NE NW sec. 33-21-16. Drlg. 400 ft.
J. P. Driscoll et al No. 4 Pender, sec. 11-20-15. Set 6⅝-in. csg. 2,102 ft.; tstg. 2,201 ft.
Falcon Oil Co. No. 2 Glassell-Youree, SE cor. sec. 26-20-15. W.O. csg. (cor.) 2,306 ft.
C. G. Gibbons No. 1-A State Lv. Bd., sec. 17-21-16. Set 8-in. csg. 1,015 ft.; W.O. S.R.
J. H. Gray No. 4 Stiles, sec. 33-21-16. Tstd. S.W. 961 ft.; D.&A.
McClanahan et al No. 1 Muslow, NE NW sec. 31-21-15. Set 10¾-in. csg. 40 ft.; S.D.
Magnolia Pet. Co. No. 27 Dillon Hrs., SW cor. NW sec. 24-21-15. Swbd. dry; will acd.; T.D. 1,625 ft.
Midfield Oil Co. No. 3 Muslow, sec. 6-20-15. Comp.; pmpg. 40 B.P.D.; T.D. 1,560 ft.
Midfield Oil Co. No. 5 Muslow, NW cor. SE SW sec. 6-20-15. Set 6⅝-in. csg. 1,335 ft.; used 3,000 gal. acd.; tstg. 1,370 ft.
Midfield Oil Co. No. 6 Muslow, NE cor. SE SW sec. 6-20-15. Set 10¾-in. csg 96 ft.; W.O.C.
J. F. Mitchell No. 2 Muslow, sec. 31-21-15. Set 6-in. csg.; T.D. 1,649 ft.; acd. and tstd. dry; S.O.; W.O.
J. Ober & Sons No. 1 fee, SE cor. sec. 36-21-16. R.U.
Oils, Inc., No. 1 Cazaux, sec. 10-16-13. Drlg. sdy. sh. 2,362 ft.
Petroleum Heat & Power Co. No. 1 Wemple, NW cor. sec. 14-20-15. Set 6-in csg. 2,185 ft.; P.B. 2,200 ft.; old T.D. 2,605 ft.; fsg. for lnr. 2,200 ft.; tstd. S.W.; D.&A. 2,200 ft.
J. E. Sedberry No. 1-A Dickinson, SW cor. sec. 10-19-14. Drlg. 2,025 ft.
Southern Star Pet. Corp. No. 1 Muslow, SE NW sec. 17-20-15. O.W.W.O.; old T.D. 1,500 ft.; set 8-in. csg. 1,350 ft.; T.D. 1,860 ft.; W.O. acd.
Southern Star Pet. Corp. No. 2 Muslow, NE cor. SE NW sec. 17-20-15. R.U.
Nat Wissman No. 3 Stiles, NW cor. SE SW sec. 27-21-16. Drlg. chk. 1,550 ft.

Caldwell Parish

G. W. Ziegen No. 14 La. Central, SW cor. sec. 20-14-3e. S.D. 1,770 ft.

Claiborne Parish

Harry Fotiades No. 1 Rogers, C NW NW sec. 13-20-5. Set 5½-in. csg. 5,378 ft.; tstg. 5,804 ft.; comp.; 52 B.P.H.; open tbg.; 330 B.P.D. on ¾-in. ck.; T.D. 5,406 ft.
Harry Fotiades No. 2 Whitman, C NW NW sec. 2-20-5. Por. L. 5,235-41 ft.; set 5½-in. csg. 5,225 ft.; tstg. 5,259 ft.
Gulf Oil Corp. No. 2 Patton, sec. 12-20-5. Comp.; 1,001 B.P.D.; ¼-in. ck.; por. L. 5,372-92 ft.; T.D. 5,392 ft.; T. P. 300 lbs.
J. H. Henry No. 1 McDonald, NE cor. SE sec. 3-20-5. Drlg. chk.&sh. 2,276 ft.
Love Pet. Co. No. 2 English, sec. 29-21-4. Set 5½-in. csg. 5,086 ft.; comp.; 80 B.P.H.; ¼-in. ck.; C.P. 75 lbs.; T.P. 160 lbs.; T.D. 5,108 ft.
Lyons & Neely No. 1 Kilgore, C NW SE sec. 11-20-5. Drlg. sh.&L. 5,010 ft.
W. H. North No. 1 Lowery, C NE NW sec. 14-20-5. Drlg. sh.&L. 4,330 ft.
Oakes et al No. 1 Kilgore, NE cor. SE sec. 28-21-15. D.S.T. 4,188-4,225 ft.; tstd. dry in 5 min.; set 5¾-in. csg. 5,290 ft.; T.D. 5,313 ft.; set perf. lnr.; tstd. dry; washed with oil and acdz. with 2,000 gal. and 150 bbls. oil; swb. dry; think csg. seat gave away; recmt. csg.; cor. depth 5,270 ft.; cor. T.D. 5,357 ft.; tried to reacdz.; swbg. small S.O.; W.O.
Prairie O. & G. Co. No. 2 Lloyd, C SE NE sec. 10-20-5. Drlg. sh.&L. 4,993 ft.
Sells Pet. Co. No. 1-B C. S. L. Patton, SE cor. NW sec. 12-20-5 Drlg. sh.&L. 5,205 ft.
Sklar Oil Corp. No. 1 Lowery, C SW SW sec. 14-20-5. Drlg. sh.&L. 4,020 ft.
Texas Canadian Oil Co. No. 1-B Lowery, C NE NE sec. 14-20-5. Drlg. sh.&L. 3,225 ft.
Texas Canadian Oil Co. No. 1 Patton, C SW SW sec. 12-20-5. Drlg. sh. 3,060 ft.
Union Prod. Co. No. 1-A Simms Unit 660 ft.; S.W. cor. sec. 29-20-5. P.B. 5,630 ft.; set 9⅝-in. csg. 5,573 ft.; W. O.C.

Concordia Parish

Edw. Addy et al No. 1 Posternack, NW SW sec. 49-8n-9e. Drlg. 1,650 ft.
Morrison & Co. No. 1 Winston, sec. 43-7-9e. Drlg. sh. 4,200 ft.

De Soto Parish

S. S. Alexander No. 1-A Stoll, sec. 5-12-16. Drlg. sh.&bldrs. 495 ft.
Clear Lake Oil Co. No. 1 Woolum, NW sec. 29-12-12. D.&A.; T.D. 2,690 ft.
G. H. Collins et al No. 2 Joiner, sec. 28-11-12. Set 6¼-in. csg. 2,894 ft.
Paul Miller et al No. 2 Jal Drlg. Co., NE sec. 5-11-11. R.U.
Petroleum Heat & Power Co. No. 2 Kavanaugh, NE cor. NW SW sec. 7-11-11. Tstd. dry 2,874 ft.; W.O.
Pet. Heat & Power Co. No. 1 Rives, sec. 20-12-11. S.D. 3,620 ft.

Grant Parish

C. R. Bowers No. 1 Harrison Est., sec. 21-8-5. S.D. 1,091 ft.
Rogers Prod. Corp. No. 3-A Holmes, SW cor. sec. 17-9n-1e. Set 4-in. csg. 82 ft.; S.D. 1,060 ft.

La Salle Parish

Cherie Oil Co. No. 1 Urania, NW cor. NW SW sec. 18-10-2e. S.D.; fuel; T.D. sh. 1,493 ft.

Lincoln Parish

Harry Fotiades No. 2-B Patton, C NW SW sec. 7-20-4. Set 5½-in. csg. 5,335 ft.; T.D. 5,368 ft.; top por. L. 5,337 ft.; W.O.C.
Magnolia Pet. Co. No. 1 Fuller, C SE SW sec. 5-20-4. Set 7-in. csg. 5,357 ft:. acdzd. with 1,300 gal.; tstg. 5,371 ft.
Magnolia Pet. Co. No. 3 Patton hrs., C NW NW sec. 7-20-4. Set 7-in. csg. 5,-310 ft.; T.D. 5,329 ft.; comp.; 462 B. P.D.; T.P. 100 lbs.; C.P. 210 lbs.

Madison Parish

Continental Oil Co. No. 1 Singer Mfg Co., C NE NW sec. 3-15-11e. Drlg. sh. 2,533 ft.

Natchitoches Parish

Jos. E. Popkins No. 1 Peavy Lbr. Co., sec. 36-7n-9w. S.D. 500 ft.; 10-in. csg. 300 ft.

Red River Parish

J. F. Lent No. 1 Chicago Coal & Ld. Co., SE cor. sec. 17-13-11. Comp.; est. 1,000,000 ft. gas; no ga.; R.P. 110 lbs.; gas sd. 850-75 ft.; 8⅝-in. csg. 840 ft;. T.D. 875 ft.
H. D. Rogers No. 3 Long Bell Lbr. Co., sec. 30-13-9. Set 6-in. csg. top Nacatoch 1,079 ft.; T.D. 1,120 ft.
Yandell Rogers No. 5 Caspari, C SE SW sec. 27-13-11. D.&A. 2,474 ft.

Sabine Parish

Addison & Peterson No. 1 Dew, SE cor. SW SE sec. 22-8-11. R.U.
Hunter Co. No. 5 Bowman Hicks, C SE SE sec. 12-7-13. Set 6-in. csg. 2,222 ft.; comp.; pmpg. 16 B.P.D. oil; 16 B.P. D. S.W.; T.D. 2,650 ft.
W. L. McClanahan No. 1 Frost Lbr. Co., sec. 22-9-13. D.S.T. 2,927-3,028 ft.; tstd. est. 1,000,000 ft. gas and 9 jts. mud; ¼-in. ck.; blew out 4,745 ft.; S.W., mud and gas; cd. hd. sh.&L. 4,745-54 ft.; W.O.; cont. T.D. 5,710 ft.
Major Oil Co. No. 3 Bowman-Hicks, sec. 11-7-13. Set 7-in. csg. 2,130 ft.; gas sd. 2,212-17 ft.; comp.; 140 B.P.D.; C. P. 250 lbs.; T.D. 2,217 ft.
Major Oil Co. No. 4 Bowman-Hicks, C NW SW sec. 7-7-12. Drlg. 1,450 ft.
Harry N. Morris No. 1-B Irving & Bishop, C SW NW sec. 18-7-12. Aczd. with 2,000 gal.; tstg. 2,690 ft.
Hunter Co. No. 1-A La. Long Leaf Lbr. Co., NE cor. sec. 19-7-12. Set 6⅝-in csg. 2,543 ft.
Albert Reich No. 1 Glaque, 330 ft. NE cor. SE NE sec. 27-7-14. D.&A. 4,342 ft.
Richards & Holloway No. 1 J. E. Bauer, SW cor. sec. 7-7-12. Drlg. 785 ft.
Richard & Holloway No. 1 Sabine Lbr. Co., sec. 7-7-12. Set 6-in. csg. 2,148 ft. T.D. 2,678 ft.; D.&A.
C. R. Schuster No. 1 Mary Garcia, NE cor. NW SE sec. 15-7-13. R.U.
Sklar & Sugar No. 1 Procella, NW NE sec. 18-7-12. Set 7-in. csg. 2,478 ft.; tstg. small S.G. 2,908 ft.; P.B. 2,670 ft.; tstd. small S.O.&G.; tstd. S.W.; old T.D. 2,908 ft.; T.D. 2,670 ft.; W.O.S.R. 900 ft. O.I.H.
Smiddy & Watson No. 1 Sabine Lbr. Co., NW NE sec. 12-7-13. Set 10-in. csg. 60 ft.; 7-in. csg. 2,129 ft.; tstd. dry 2,352 ft.; 1,100 ft. O.I.H.; W.O.S.R. 2,580 ft.
H. M. Sneed No. 1 Leone, 330 ft. S line, 400 ft. W line, NW SE sec. 8-7-13. R.U.
Sutton Zwolle Oil Co. No. 1 Bowman-Hicks, SE SW sec. 14-7-14. Drlg. 2,207 ft. and well blew out making oil; flwd. wild for several hrs.; comp.; 266 B.P.D.; ½-in. ck. on csg.; drlg. string in hole; T.D. 2,209 ft.
Tropical Oil Co. No. 1 Long Bell Lbr. Co., sec. 5-8-13. Drlg. 1,278 ft.
Voline Oil Co. No. 1 First Natl. Bnk., sec 18-7-12. Top. ch. 2,460 ft.; fsg. 2,560 ft.
Lee Whitehurst No. 1 First Natl. Bnk. of Shreveport, sec. 14-7-13. Set 10-in. 82 ft.; set 7-in. csg. 2,152 ft.; S.O. & S.W.; cmtd. on bttm; used 2,000 gal. acd.; T.D. 2,597 ft.; tstg.
Zwolle Synd. No. 1 Mansfield Lbr. Co., sec. 8-7-19. Drlg. 2,196 ft.

Webster Parish

Hunt Oil Co. No. 8 Babb, sec. 13-21-10. Top Holloway sd. 5,642 ft.; set 9⅝-in. csg. 5,627 ft.; T.D. 5,980 ft.; Holloway sd. tstd. dry; drlg. sh.&L. 7,431 ft.
Hunt Oil Co. No. 2 Bodcaw Lbr. Co., NE cor. sec. 33-21-10. Drlg. anhy. & sh. 4,355 ft.
Hunt Oil Co. No. 3 Bodcaw-Stewart, C NW SW sec. 34-21-10. Drlg. sh.&L. 3,-748 ft.
Hunt Oil Co. No. 1 Davis, 660 ft. NE cor. sec. 23-21-10. Holloway sd. 5,394-5,600 ft.; set 9⅝-in. csg. 5,563 ft.; flwg. est. 30 B.P.D. by hds.; W.O.; T.D. 5,969 ft.
Hunt Oil Co. No. 20 Hope, C NE NW sec. 24-21-10. Top Holloway sd. 5,596-5,604 ft.; set 9⅝-in. csg. 5,580 ft.; did not test Holloway sd.; drlg. sdy. L. 7,460 ft.
Hunt Oil Co. No. 1 Pardee, sec. 24-21-10. Set 13⅜-in. csg. 797 ft.; drlg. L.& sh. 5,495 ft.
Hunt Oil Co. No. 1 Sandifer, C NE NE sec. 4-20-10. Drlg. 670 ft.
Magnolia Pet. Co. No. 4 Cox, sec. 23-21-10. Drlg. sh.&L. 5,720 ft.
Magnolia Pet. Co. No. 1 Crichton Unit sec. 33-21-10. Top Lower Marine 7,910 ft.; set 7-in. csg. 8,388 ft.; T.D. 8,-415 ft.; comp.; 644 B.P.D. dist.; ½-in. ck.; T.P. 2,450 lbs.; C.P. 2,800 lbs.
Magnolia Pet. Co. No. 1 Merritt Unit, C SW NW sec. 14-21-10. Drlg. 415 ft.
Magnolia Pet. Co. No. 1-C Pardee, C NW NE sec. 1-23-11. Drlg. 5,670 ft.
Midstates Oil Corp. No. 1 Welori Lbr. Co. Unit, NE cor. NW sec. 3-20-10. R.U.
Harry Morgan No. 2-A Hope, C SE SW sec. 24-21-10. Drlg. L.&sh. 6,043 ft.
North American Oil Consol. Co. No. 1 Barrow, C NE NW sec. 21-21-10. Top Trv. Pk. 5,889 ft.; set 9⅝-in. 5,945 ft: no Holloway sd.; drlg. rd. sh. 7,616 ft.
Ohio Oil Co. No. 4 Cox, Acct. 2, C SW sec. 15-21-10. Drlg. 7,946 ft.
Oliphant Oil Corp. No. 1-B Stewart, C NW NE sec. 5-20-10. Drlg. rd. sh. 4,-702 ft.
Oliphant Oil Corp. No. 2-B Stewart, C NW NW sec. 4-20-10. Drlg. sh. 2,085 ft.
Union Prod. Co. No. 1 Josey, sec. 27-21-10. Set 7-in. csg. 8,084 ft.; T.D. 8,145 ft.; comp.; 180 B.P.D. dist. and est. 3,000,000 ft. gas; ⅛-in. ck.; T.P. 2,925 lbs.; C.P. 2,725 lbs.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 2 J. A. Brookshire, sec. 66-12s-3e. T.D. 7,902 ft.; 6-in. csg. 7,902 ft.; tstd. S.W. and sd.
Continental Oil Co. No. 1 Franciol, sec. 67-12s-3e. Drk.

Anse La Butte—St. Martin Parish

Louisiana-Crusader No. 3 Central Oil Co., sec. 86-9s-5e. S.D. 421 ft.
Mary G. Thomas No. 1 J. A. Broussard, sec. 117-9s-5e. Drlg. sh. 1,348 ft.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 1 Columbia Ld. & Tmbr. Co., sec. 16-6s-13w. Drlg. sh. 5,300 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 Wax Bayou, sec. 21-16s-12e. T.D. 7,521 ft.; fsg.

Baton Rouge—East Baton Rouge Parish

Wm. Helis No. 2 Duplantier, sec. 65-7s-1w. T.D. 7,340 ft.; P.B. 3,800 ft.; sidetracked; T.D. 6,491 ft.; I.P. 196 B.O. P.D.; ¼-in. ck; T.P. 2,175 lbs.; C.P. 2,150 lbs.
Wm. Helis et al No. 2-A La. State University, sec. 66-7s-1w. Drk.
Wm. Helis No. 1 Harry Nelson, sec. 36-7s-1w. Cd. oil sd. 6,477-6,500 ft.; T.D. 7,710 ft.; D.P. stk.; fsg.

Bay St. Elaine—Terrebonne Parish

F. L. LeBlanc No. 2 Wurzlow, sec. 17-22s-18e. S.D. 816 ft.
Texas Co. No. 4 State-Bay St. Elaine, sec. 19-23s-20e. Rig.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 7 A. Wilberts, sec. 66-9s-11e. Drlg. sh. 5,928 ft.

Bayou Choctaw—West Baton Rouge

La. Crusader Oil Co. No. 3 Schwing, sec. 29-8s-11e. Drlg. sd. 2,245 ft.
Standard Oil Co. et al No. 1 Marley Cypress Co., sec. 29-8s-11e. Drlg. sh. 6,536 ft.

Bayou De Allemands—St. Charles Parish

Amerada Pet. Corp. No. 1 Gheens Realty Co., sec. 56-15s-20e. T.D. 7,021 ft.; D.P. stk.
Amerada Pet. Corp. No. 4 State, sec. 13-15s-20e. Drlg. sh. 9,736 ft.
Amerada Pet. Corp. No. 2 St. Charles Ld. Co., sec. 13-15s-20e. T.D. 8,500 ft.; run 7-in. csg.

Caillou Island—Terrebonne Parish

Texas Co. No. 4 State-Terrebonne Bay, sec. 19-23s-20e. Rig.
Texas Co. No. 29 State, sec. 17-23s-20e. Rig.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 23 School Ld., sec. 16-14s-13w. T.D. 5,786 ft.; 7-in. csg. 5,323 ft.; tstd. S.W.; P.B. to sidetrack; T.D. 2,959 ft.; flwd. oil and sanded up; S.D.
Burton-Sutton Oil Co. No. 25 School Ld., sec. 16-14s-13w. Drlg. sh. 7,756 ft.
Magnolia Pet. Co. No. 22 Cameron Meadows, sec. 21-14s-13w. 9⅝-in. csg. 4,242 ft.; T.D. 6,367 ft.; P.B. 3,830 ft.; perf. csg. 3,777-97 ft.; flwd. 80 bbls. fluid, 80% S.W.; killed well; cutting and pulling screen.
Magnolia Pet. Co. No. 23 Cameron Meadows, sec. 21-14s-13w. Drk.

Cheneyville—Rapides Parish

Amerada Pet. Corp. No. 5 Weil Ld. Co., sec. 53-1s-2e. T.D. 6,874 ft.; perf. csg. 6,220-50 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 9 Laws Realty Co., sec. 31-13s-10e. T.D. 7,209 ft.; P.B. 4,000 ft.; W.O.C.
Pan American Prod. Co. No. 10 Laws Realty Co., sec. 30-13s-10e. Drlg. sh. 2,613 ft.

Creole—Cameron Parish

Superior Oil Co.-Pure Oil Co. No. 3 State-Gulf of Mexico. R.U.

Darrow—Ascension Parish

Darrow Oil Co. No. 1 Dennis, sec. 68-10s-2e. T.D. 5,750 ft., stky. sh., S.D.
Humble O. & R. Co. No. 1-B Community, sec. 49-10s-2e. Drlg. sh. 6,652 ft.
Humble O. & R. Co. No. 14 Gumbel, sec. 33-10s-2e. R.U.
Kiva Oil Co. No. 1 Duplessis, sec. 69-10s-2w. S.D. 2,523 ft.
Southern Drillers, Inc. (D. J. Simmons) No. 1 August Berteau, sec. 55-10s-2e. Drlg. sd.&sh. 6,783 ft.

Four Isle—Terrebonne Parish

Texas Co. No. 10 State, sec. 24-21s-16e. Drlg. wtr. sd. 6,947 ft.

Gibson—Terrebonne Parish

Shell Pet. Corp. No. 1 Kuntz, sec. 40-17s-15e. Cg. sd. 9,669 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 28 State, sec. 100-23s-38e. Drlg. sh. 3,229 ft.

Grand Bay—Plaquemines Parish

Gulf Ref. Co. No. 2 Grand Prairie Lve., sec. 48-20s-18e (1,320 ft. W of No. 1). Dredging canal to loc.

Hackberry—Cameron Parish

Berry Oil Corp. No. 1 Cora E. Lyons, sec. 28-12s-10w (West Hackberry). Drlg. sh. 2,850 ft.
Darryl Davis No. 1 Bickford, sec. 39-12s-10w. T.D. 2,873 ft.; top sh., L., and brkn. cap; S.O. 2,792 ft.; 5-in. csg. 2,778 ft.; tstd. S.W.; S.D.
Gulf Oil Corp. No. 1 Noble, sec. 22-12s-10w. T.D. 3,201 ft.; P.B. 2,830 ft.; W. O.C.; to sdtrk. jnk.; fsg.
Stanolind O. & G. Co. No. 1 Carter, sec. 22-12s-10w. Drk.
Stanolind O. & G. Co. No. 1 Dorisse Kough, sec. 28-12s-10w. Cg. sd. 2,-846 ft.
Superior Oil Co. No. 3 Benson Vincent, sec. 30-12s-10w. Drlg. sd. 5,451 ft.
Texas Co. No. 24-B State, sec. 12s-9w. T.D. 8,052 ft.; sdtrkd.; T.D. 7,259 ft.; fsg. D.P.
Union Sulphur Co. No. 7 Hanzen, sec. 13-12s-10w. Bldg. rd.

Horseshoe Bayou—St. Mary Parish

Texas Co. No. 2 State, sec. 37-17s-9e. R.U.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 1-A Roane Sugar Co., sec. 38-13s-9e. T.D. 10,645 ft.; milling to sdtrk. stk. D.P.

Jefferson Island—Iberia Parish

Texas Co. No. 1 State-Lake Peigneur, Twp. 12s-5e. Drlg. sh. 2,957 ft.

Jennings—Acadia Parish

Frank Bennett No. 1 Freeman & Carden, sec. 45-9s-2w. T.D. 4,224 ft.
W. T. Burton No. 6 Roboria, sec. 41-9s-2w. T.D. 6,797 ft.; 7-in. csg. 6,721 ft.; fsg. tbg.
Cosmo Pet. Co. No. 1 Jennings-Clement, sec. 46-9s-2w. T.D. 3,552 ft.; hole clean; drlg. ahd.
Frio Oil Co. No. 2 Gulf fee, sec. 45-9s-2w (NW flank). 10¾-in. csg. 1,512 ft.
Frio Oil Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 6,687 ft.; P.B. 4,300 ft. drlg. sh. 6,019 ft.
Glassell & Glassell No. 5 Trushell, sec. 42-9s-2w. Drlg. sh. 6,349 ft.
Glassell & Glassell No. 6 Trushell, sec. 42-9s-2w. Drk.
Guaranty Oil Co. No. 1 Housierre-Latrielle, sec. 47-9s-2w. Oil sd. 1,731-45 ft.; 6⅝-in. csg. 1,715 ft.; I.P. 250 B. P.D.; ⅝-in. ck.
Iles Pet. Corp. No. 2 Jennings-Heywood, sec. 41-9s-2w. T.D. 1,700 ft.; run 6-in. csg.
L. & L. Oil Co. No. 1 Housierre-Latrielle, sec. 47-9s-2w. Cg. 1,925 ft.
W. S. Noble et al No. 1 Ed Prather, sec. 45-9s-2w. Drlg. sh.&sdy. L. 6,671 ft.
Pet. Heat & Power Co. No. 1 Iowa-Jennings, sec. 45-9s-2w. T.D. 3,995 ft.; P. B. 1,055 ft. to sdtrk.; drlg. sh. 2,300 ft.
Pet. Heat & Power Co. No. 2 Iowa-Jennings, sec. 45-9s-2w. T.D. 2,167 ft.; P. B. 1,595 ft.; 5½-in. csg. 1,585 ft.; S.D.
Shell Pet. Corp. No. 4 Community, sec. 40-9s-2w. Drlg. sh. 4,718 ft.
Stanolind O. & G. Co. No. 112 Crowley Oil & Mineral Co., sec. 48-9s-2w. T.D. 6,838 ft.; P.B. 4,890 ft.; to sdtrk.; drlg. sdy. L. 5,296 ft.
Superior Oil Co. No. 4 Iowa-Jennings, sec. 41-9s-2w. T.D. 6,778 ft.; perf. csg. 6,170-6,290 ft.
Superior Oil Co. No. 4 Clement, sec. 46-9s-2w. Drlg. sh.&L. 5,783 ft.
Superior Oil Co. No. 7 Jennings-Heywood, sec. 41-9s-2w. Drk.
Superior Oil Co. No. 13 Leckelt, sec. 42-9s-2w. T.D. 7,926 ft.; sdtrkd.; drlg. sd. 7,515 ft.
Three Sands Oil Co. No. 1 Whisenhunt & Tyrell, sec. 46-9s-2w. Cmtd. 6-in. csg. 1,600 ft.
Victor Weisse No. 1 Clement, sec. 46-9s-2w. 6⅝-in. csg. 3,032 ft.; T.D. 3,255 ft.; fsg. for tbg.

Lafitte—Jefferson Parish

Carter-Perrin & Brian No. 1 Lucien Adams, sec. 9-17s-24e. Drlg. 230 ft.; no report.
Texas Co. No. 11 Lafitte, sec. 19-17s-24e. T.D. 10,106 ft., oil sd.
Texas Co. No. 3 Madison Realty Co., sec. 17-12s-24e. Drlg. sh.&L. 7,897 ft.
Texas Co. No. 3 Marrero Ld. Co., sec. 29-17s-24e. T.D. 6,221 ft.; D.S. stk.
Texas Co. No. 10 Rigolet Cooperative Fur Co., sec. 28-17s-24e. Canal comp.

Lake Barre—Terrebonne Parish

Texas Co. No. 16 State, sec. 32-21s-19e. T.D. 4,280 ft.; P.B. 2,734 ft.; sd. S.O.; top sd. 3,833 ft.; T.D. 4,173 ft.; rmg.
Texas Co. No. 42 State-Lake, sec. 40-21s-19e. Drlg. sh.&sd. 8,925 ft.

Lake Pelto—Terrebonne Parish

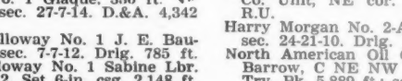
Texas Co. No. 21 State, sec. 8-23s-18e. Drlg. salt 6,058 ft.

Lake Hermitage—Plaquemines Parish

Gulf Ref. Co. No. 8 Lafourche, sec. 11-18s-25e. Drlg. hd. sh. 2,664 ft.; 10¾-in. csg. 967 ft.; drlg. sd. 1,870 ft.

Leesville—Lafourche Parish

Wm. Helis No. 1-A City of New Orleans, sec. 35-21s-22e. Drlg. wtr. sd. 6,949 ft.
Texas Co. No. 69 Leeville, sec. 27-21s-



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22e. Salt 6,530-37 ft.; 7⅝-in. csg. 6,410 ft.; I.P. 386 B.P.D.; ¾-in. ck.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 Robert Verret, sec. 32-19s-19e. Drlg. hd. sd.&gvl. 1,876 ft.; 20-in. csg. 296 ft.; 13⅜-in. csg. 3,164 ft.; T.D. 3,170 ft.; W.O.C.

Lockport—Calcasieu Parish

La. Crusader Oil Co. No. 1 Milam Stieker, sec. 6-10s-9w. Drlg. sh. 1,828 ft.; 10¾-in. csg. 1,028 ft.; drlg. sh. 3,085 ft.

Magnolia Pet. Co. No. 23 Miller, sec. 9-10s-9w. Drlg. sh. 7,201 ft.

T. C. Markley No. 1 Farquhar (offset Continental No. 1 J. H. Moss). Drk.

Lake Long—Lafourche Parish

Fohs Oil Co. No. 5 State-Lake Long, sec. 64-17s-19e. Drlg. sh. 2,764 ft.; 13⅜-in. csg. 2,761 ft.; drlg. sh. 4,977 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 10 Bernard, sec. 54-12s-7e. Drlg. sdy. L. 3,728 ft.

Canal Oil Co. No. 4 Sabatier. T.D. 2,560 ft.; salt.; P.B. 2,310 ft.; W.O.C.

H. Fotiades No. 5 Gulf Ld., sec. 25-12s-7e. Drlg. sdy. sh. 4,682 ft.

H. Fotiades No. 7 Gulf Ld., sec. 25-12s-7e. Drk.

Wm. Helis No. 6 Schwing, sec. 56-12s-7e. Salt 3,949-50 ft.; P.B. 1,850 ft.; drlg. sdy. sh. 3,708 ft.

Texas Co. No. 2 Burke, sec. 56-12s-7e. T.D. 7,076 ft., salt; P.B. 4,350 ft.; sidetracking 4,830 ft.; drlg. sdy. sh. 5,602 ft.

Texas Co. No. 4 J. P. Drake, sec. 26-12s-7e. Drlg. sh. 5,986 ft.

Texas Co. No. 2 Clemente Hebert, sec. 25-12s-7e. Drk.

Texas Co. No. 2 Schwing, sec. 71-12s-7e. Drlg. sdy. sh. 4,042 ft.

Texas Co. No. 4 Grelino, sec. 25-12s-7e. Drlg. sh. 5,986 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 3 Anton Ohlenforst, sec. 34-8s-1e. Sd. 7,177-94 ft.; cmtd. 7-in. csg. 7,194 ft.; perf. 7,189-92 ft.; tstd. gas; killed; cutting and pulling screen.

Port Barre—St. Landry Parish

T. C. Markley No. 1 Lahaye, sec. 4-6s-5e. T.D. 4,775 ft.; 7-in. csg. 4,640 ft.; run screen to test.

Pan American Prod. Co. No. 3 Garland, sec. 4-6s-5e. Drk.

Pan American Prod. Co. No. 1 Lahaye sec. 4-6s-5e. T.D. 5,426 ft., salt; P.B. 1,868 ft.; drlg. sh. 4,700 ft. in sdtrkd. hole.

Pan American Prod. Co. No. 1 Rene Nezal. Drk.

Y. D. Spill No. 1 Gaudet, sec. 4-6s-5e. S.D. 1,565 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 36 Orleans Lve. Bd., sec. 14-18s-15e. Drlg. sdy. sh. 8,744 ft.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 1-A Orleans Levee Bd., sec. 18-19s-17e. Drlg. sd.&L. 5,714 ft.

Gulf Ref. Co. No. 4 State, sec. 17-19s-17e. T.D. 11,014 ft.; P.B. 10,078 ft.; tstg.

Gulf Ref. Co. No. 5 State, sec. 17-19s-17e. Loc.

Gulf Ref. Co. No. 6 State, sec. 17-19s-17e. Driving piling.

Raceland—Lafourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., sec. 34-15s-19e. 18⅝-in. csg. 262 ft.; T.D. 11,312 ft.; 7-in. csg. 11,312 ft.; S.D.

Amerada Pet. Corp. No. 2 South Coast Corp., sec. 35-15s-19e. T.D. 11,452 ft.; heaving sh.

Tide Water Asso. Oil Co. No. 1 South Coast Corp., sec. 33-15s-19e. R.U. and S.D.; loc. abd.

Tide Water Oil Co. No. 1-A South Corp., sec. 34-15s-19e. R.U.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 12 United Ld. Co., sec. 15-10s-4e. Cap rk. 1,725-1,817 ft.; D.P. stk.

Sorrento Pet. Corp. No. 2 White, sec 22-10s-4e. R.U.

South Elton—Jeff Davis Parish

Stanolind O. & G. Co. No. 4-B Calcasieu Natl. Bnk., sec. 29-7s-3w. Loc. abd.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Joe Sturdivant, sec. 36-10s-4w. Drlg. sh. 10,729 ft.

Union Sulphur Co. No. 2 T. R. S. Farms sec. 23-10s-4w. Sh. 9,736 ft.; cmtd. 7-in. csg. 8,888 ft.; W.O.C.

Starks—Calcasieu Parish

Lutcher-Moore Co. No. 5 fee, sec. 19-9s-12w. T.D. 4,153 ft., salt; P.B. 3,987 ft.; 7-in. csg. 3,827 ft.; bailed dry; S.D. 3,857 ft.

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 19-9s-12w. Top salt 2,270 ft.; S.D., 2,273 ft.; P.B. 1,150 ft.; S.D.

Timballer Bay—Lafourche Parish

Gulf Oil Corp. No. 4 State, sec. 36-23-21e. T.D. 7,373 ft.; T.D. sdtrkd. hole 6,231 ft.; fsg.

Valentine—Lafourche Parish

Pan American Prod. Co. No. 1-A Community, sec. 99-17s-20e. Drlg. sh. 7,675 ft.

Pan American Prod. Co. No. 2-B Community, sec. 58-17s-20e. T.D. 10,055 ft.; P.B. 8,880 ft.; sdtrkd.; drlg. sh.& shls. 9,146 ft.

Pan American Prod. Co. No. 1 A. Robichaux, sec. 3-17s-20e. T.D. 5,889 ft.; stk. D.S.; fsg.

Venice—Plaquemines Parish

Tide Water Oil Co. No. 8 Manhattar Ld. & Fruit Co., sec. 26-21s-30e. T.D. 7,250 ft.; sdtrkd. at 6,146 ft.; drlg. sh.&sd. 6,408 ft.

Villa Platte—Evangeline Parish

Amerada Pet. Corp. No. 2 Fornier, sec. 44-35-2e. Drlg. L. 8,752 ft.

Continental Oil Co. No. 1 A. M. Fontenot, sec. 46-3s-2e. T.D. 9,040 ft.; tstg.

Continental Oil Co. No. 2 Piere McDaniel, sec. 44-3s-2e. Drlg. sh. 1,508 ft.

J. R. Hughes Oil Co. No. 1 J. E. Ortego, sec. 36-3s-2e. R.U.

Vinton—Calcasieu Parish

J. B. Reddich No. 3 Vincent, sec. 34-10s-12w. Drlg. sh. 1,760 ft.

Welsh—Jeff Davis Parish

A. V. Peters No. 3 fee, sec. 22-9s-5w. T.D. 1,020 ft.; 6⅝-in. csg. 950 ft.; stk. bailer; I.P. 5 B.O.P.D.; pmpg.

Stanolind O. & G. Co. No. 2 Conover sec. 20-9s-5w. T.D. 7,553 ft.; drlg. sh. &L. 7,247 ft.

Stanolind O. & G. Co. No. 1 Pousson, sec. 28-9s-5w. Drlg. sh.&L. 5,340 ft.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 1 Reese, sec. 5-12s-2w. R.U.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 O. Miller, sec. 7-9s-5w. Drlg. sh. 5,468 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Atlantic Ref. Co. No. 1 Klumpp, sec. 12-7s-2w. M.I.M.

Avoyelles Parish

G. C. Koch et al No. 1 Kelone, sec. 21-2n-3e. 10¾-in. csg. 987 ft.; S.D. 6,021 ft.; prep. to resume drlg.

Calcasieu Parish

Union Sulphur Co. No. 1 Drew-Manuel, sec. 4-10s-11w. Drlg. sh. 8,770 ft.

Sun Oil Co. No. 2 Lutcher-Moore, sec. 12-8s-13w. R.U.R.

Wheeler Oil Corp. No. 2 Sch. Ld., sec. 16-9s-7w. 15½-in. csg. 46 ft.; S.D. 641 ft.; T.A.

Cameron Parish

Federal Roy. Co. No. 1 State-Calcasieu Lake, sec. 34-13s-8w. Driving piling.

Humble O. & R. Co. No. 2 K. B. Hanzen, 466 ft. S and E. NW cor. SW¼ sec. 9-12s-6w. T.D. 9,782 ft.; conditioning mud.

Pure Oil Co. No. 2 Calcasieu Natl. Bnk., sec. 18-12s-4w (½ mi. N of No. 1). Drk.

Superior Oil Co. No. 1 Sells, sec. 5-15s-8w. T.D. 6,350 ft.; 10¾-in. csg. 6,350 ft.; T.D. 10,085 ft.; S.D.; abd.

Union Sulphur Co. No. 3 Miami Corp., sec. 33-12s-8w (Willow Lake area). Driving piling.

Concordia Parish

Benedum & McCormick No. 1 L. P. Allen, sec. 35-5n-8e. Rigging.

Iberia Parish

Texas Co. No. 2-B Vermilion Bay, sec. 20-16s-5e. T.D. 9,101 ft.; S.I. after B.O. and abd.

Jeff Davis Parish

Union Sulphur Co. No. 1 H. J. Liggett, sec. 36-7s-5w. Drlg. sd. 7,668 ft.

Jefferson Parish

Julius Szodomka No. 1 Carroll, sec. 12-12s-11e. T.D. 5,230 ft.; run elec. cg. sur.

Lafourche Parish

Sun Oil Co. No. 1 Dilbert Stark, Brown Cypress Co., sec. 70-15s-15e. Drlg. sh. &L. 6,779 ft.

Texas Co. No. 1 La Terre, sec. 1-20s-21e. Drlg. sh. 8,524 ft.

Orleans Parish

W. T. Burton No. 2-B Faubourg de Montluzin, sec. 1-10s-13e. Drlg. 125 ft.

W. T. Burton No. 1-B R. E. E. de Montluzin, sec. 1-10s-13e. Drk.

W. T. Burton No. 1 State-Lake Pontchartrain, Twp. 10s-13e. Drlg. sd. 6,594 ft.

Rapides Parish

J. J. Farrell No. 1 W. P. Aertker, sec. 16-4n-1e. Drk.

E. F. Kalb et al No. 1 Lee Lbr. Co., sec. 9-5n-3e. Drlg. 140 ft.

St. James Parish

Continental Oil Co. No. 1 Colonial Sugars Co., sec. 46-12s-5e. Cg. sh. 8,215 ft.

Continental Oil Co. No. 1 Realty Operators, sec. 17-12s-17e. T.D. 7,499 ft.; 9⅝-in. csg. 6,520 ft.; P.B.; perf. csg. 6,358-64 ft.; flwd. 125 bbls. 46.6-gr. oil per bay; 21/64-in. ck.

St. John the Baptist Parish

Shell Pet. Corp. No. 1 Godchaux, sec. 97-11s-7e. T.D. 8,360 ft.; fsg.

St. Landry Parish

Herton Oil Co. et al No. 1 Thistlephlite Lbr. Co., sec. 60-4s-4e. Loc.

St. Martin Parish

Shell Pet. Corp. No. 1 Jeanerette Lbr. Co., sec. 14s-12e. T.D. 10,550 ft.; fsg.

Texas Co. No. 6 State Lake Mongoulois, sec. 10-10s-9e. Drlg. sh. 4,827 ft.

Texas Co. No. 11 St. Martin Ld. Co., sec. 21-8s-7e. Drlg. sh.&L. 8,414 ft.

St. Tammany Parish

Ozro B. Phillips No. 1 A. J. Planche, sec. 28-6s-10e. S.D. 3,118 ft.; abd.

Terrebonne Parish

Barnsdall Oil Co. No. 1 R. R. Barrow Inc., sec. 41-17s-18e. Drlg. sh. 10,678 ft.

Fohs Oil Co. No. 1 State, sec. 41-19s-19e. T.D. 13,409 ft.; 7-in. csg. 12,215 ft.; P.B. 8,746 ft.; W.O.C.

Shell Pet. Corp. No. 1 Peters, sec. 73-18s-18e. T.D. 9,000 ft.; S.D.

Shell Pet. Corp. No. 1 Realty Operators, sec. 10-18s-16e. 13⅜-in. csg. 2,461 ft.; drlg. sh. 10,865 ft.

Texas Co. No. 1 State, Caillou Island Bay, Twp. 23s-14e. Cd. sd. S.O. 4,390-95 ft.; top salt 4,922 ft.; T.D. 4,924 ft.; salt.

Vernon Parish

Mike Halbouty et al No. 1 Gulf Lbr Co., sec. 15-1n-6w. T.D. 7,202 ft.; abd.

TEXAS

Week Ending August 6

GULF COAST FIELDS

Danbury—Brazoria County

Rowan Drlg. Co.-Shell Pet. Corp. No. 7 Thos. Jamison, H. Austin Sur. No. 6. 10¾-in. csg. 188 ft.; drlg. sh. 1,510 ft.

Lockridge—Brazoria County

Gulf Oil Corp. No. 8-A Wilkes & Smith, J. W. Hall Sur. No. 11. T.D. 6,385 ft.; W.O.C.

Shell Pet. Corp. No. 5-B Ramsey State farm, J. W. Hall Sur. T.D. 6,365 ft.; W.O.C.

Hastings Field—Brazoria County

Humble O. & R. Co. No. 9 J. E. Alexander, H.T.&B. Sur. 28. Drk.

Stanolind O. & G. Co. No. 5 Droegemeyer, H.&T.C. Sur. No. 36. Drlg. sd. &sh. 5,960 ft.

Stanolind O. & G. Co. No. 5 Froberg, R. A. Magee Sur. T.D. 6,080 ft.; W.O.C.

Stanolind O. & G. Co. No. 11 E. Grote, A.C.H.&B. No. 2 Sur. T.D. 1,250 ft.; 10¾-in. csg. 1,245 ft.; T.D. 5,250 ft.; 7-in. csg. 5,245 ft.

Stanolind O. & G. Co. No. 7 J. F. Law, H.T.&B. Sur. No. 36. Loc.

Stanolind O. & G. Co. No. 2 P. McDonald, Mary Sloan Sur. Drk.

Stanolind O. & G. Co. No. 15 Sneed, A. C.H.&B. Sur. Drk.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Chenault, C. Breen Sur. R.U.

Harrison & Abercrombie No. 1 Chenault, C. Breen Sur. Drk.

Harrison & Abercrombie No. 1 R. D. McDonald, C. Breen Sur. No report.

Harrison & Abercrombie No. 1 C. Larsen, Chas. Breen Sur. Drlg. sh. 9,410 ft.

Harrison & Abercrombie No. 1 Sadler & Larsen, C. Breen Sur. Drlg. sh. 9,465 ft.

Stratton Ridge—Brazoria County

Sterling O. & R. Co. No. 1 J. C. Kramer, T. W. Grayson Sur. T.D. 3,695 ft.; P.B. 3,200 ft.; W.O.C.

West Columbia—Brazoria County

Frost & Dunman No. 2 Parker, G. Tennille Sur. T.D. 5,600 ft.; abd.

Mike Hogg No. 3 fee, G. Tennille Sur. T.D. 2,745 ft.; fsg.

Texas Co. No. 25 W. H. Abrams, G. Tennille Sur. T.D. 4,881 ft.; P.B. to sdtrk.

Texas Co. No. 26 Abrams, G. Tennille Sur. Drlg. sh. 2,015 ft.

Texas Co. No. 3 Rebecca Goldman, G. Tennille Sur. T.D. 5,364 ft.; pulling csg.

Texas Co.-Sterling O. & R. Co. No. 8 Phillips, Geo. Tennille Sur. Drk.

Cedar Point Field—Chambers County

Standard Oil Co. of Texas-Salt Dome Oil Corp. No. 1-94 State. T.D. 6,450 ft.; P.B. 3,675 ft.; sdtrkd. at 3,653 ft.; top oil sd. 4,414 ft.; cd. to 4,430 ft.; flwd. oil on D.S.T.; run csg.

Cotton Lake—Chambers County

J. R. Turnbull No. 1 Casey, S. Barrow Sur. T.D. 6,539 ft.; 5½-in. csg. 6,525 ft.; perf. csg. 6,460-70 ft. and 6,480-92 ft.; flwd. oil and S.W.; reperf. csg.

Gillespie-Colcord No. 1 Lawrence, S. Barrow Sur. Cmtd. 10-in. csg. 1,167 ft.; T.D. 6,531 ft.; 5½-in. csg. 6,520 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 3 Broussard-Hebert, T &N.O. Sur., sec. 127. Cd. oil sd. 5,461-84 ft.; run csg.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 6 A. D. Middleton, S. Burney Sur. Drk.

Greens Lake—Galveston County

Sun Oil Co. No. 2 Houston Farm Dev. Co., D. Buckley Sur. Drlg. sh. 7,269 ft.

Hitchcock—Galveston County

N. W. Hunter No. 2 Aarco, Burke Sur. T.D. 5,148 ft.; 5-in. csg. 5,136 ft.

N. W. Hunter No. 1 J. D. Hughes, A. Burke Sur. Drk.

Clinton—Harris County

S. G. Harrison No. 1 Lafferty, J. Brown Sur. Drlg. sh. 2,650 ft.

Stanolind O. & G. Co. No. 1 M. J. Barraco, Reels & Trobough Sur. (1,200 ft. S of No. 1). Drlg. sh. 2,875 ft.

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Stanolind O. & G. Co. No. 3 Sanders, Reels & Trobough Sur. T.D. 3,806 ft.; perf. csg. 3,726-36 ft.; flwd. S.W.; reperf. csg.

Sun Oil Co. No. 1 H. C. Oates, Reels & Trobough Sur. M.I.M.

Eureka—Harris County

Jack Frazier No. 1 Lackner, H. Reinerman Sur. Spd.

Jack Frazier No. 4 Vollmer-Neiman, J. Reinerman Sur. Drlg. sh. 2,734 ft.

Tide Water Asso. Oil Co. No. 2-A Lackner, J. Reinerman Sur. Drlg. sh. 6,285 ft.

Tide Water Asso. Oil Co. No. 1-B Laura Lackner, H. Reinerman Sur. Drlg. sh. 900 ft.

Fairbanks—Harris County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Berryman and Emmott, J. Waugh Sur. Drlg. sh. 1,510 ft.

Amerada-Stanolind O. & G. Co. No. 1 Adell, J. Clarkson Sur. R.U.

Amerada-Stanolind O. & G. Co. No. 3 M. E. Cougat, Geo. Ayers Sur. Drlg. 4,537 ft.

Amerada-Stanolind O. & G. Co. No. 2 L. M. Day, Geo. Ayers Sur. Drlg. sh. 6,770 ft.

Amerada-Stanolind O. & G. Co. No. 2 W. E. Denman, J. Waugh Sur. Drlg. sh. 5,430 ft.

Amerada-Stanolind O. & G. Co. No. 4 H. E. Ley, J. Waugh Sur. Drlg. sh. 3,020 ft.

Amerada Pet. Corp.-Stanolind O. & G.

REGISTERED PROFESSIONAL ENGINEERS
GAS AIR WATER
REPRESSURING
INSTALLATION OPERATION
PETROLEUM ENGINEER
JO H CABLE
WICHITA FALLS TEXAS
GAS MEASUREMENT PERMEABILITY
COMPRESSOR PLANTS POROSITY
BOTTOM HOLE PRESSURE SATURATION
GAS OIL RATIOS RECOVERABLE OIL
CONTROL OF FLOW THRU FORMATION
REGISTERED PROFESSIONAL ENGINEERS

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85,000 Working Barrels in Use
OUR working barrels have been continually improved for 30 years. We have worked with producers in developing many special features for pumping.
We will be glad to try to help you out of your difficulties.
McGREGOR WORKING BARREL COMPANY
Bradford, Pa., U.S.A.

Co. No. 1 Marietta, G. Williams Sur. Loc.
Amerada-Stanolind O. & G. Co. No. 3 E. W. Mills, A. Lawson Sur. Cg. sd. 6,800 ft.
W. V. Bowles No. 3 Galloway, May McFarland Sur. Drlg. sh. 4,365 ft.
Carroll Oil Co. No. 1 Ralph Johnston, J. N. Dement Sur. T.D. 6,864 ft.; perf csg. 6,839-43 ft.; would not flow; S.D.
Gem Oil Co. No. 5 Reid, G. Ayers Sur. T.D. 6,853 ft.; 5½-in. csg. on bttm.
E. M. Hailey No. 1 Albert Brown, J. Clarkson Sur. Loc.
Mortex Oil Co. No. 1 W. R. Reid, G. Ayers Sur. Drk.
Showers & Moncrief No. 1-B B. W. Reid, J. Waugh Sur. Drlg. sh. 4,339 ft.
Skelly Oil Co. No. 2 J. H. Emmott, J. Waugh Sur. Drlg. 100 ft.
Smith & Ownby No. 3-B Gibson, Geo. Ayers Sur. Drlg. sh. 1,710 ft.
Stanolind O. & G. Co. No. 1 Fritz Look, S. Lewis Sur. Drlg. 2,020 ft.
Union Prod. Co. No. 1 Goodykoontz, W. S. Powell Sur. T.D. 7,617 ft.; S.W. sd.; perf. 5½-in. csg. 7,222-25 ft.; tstd. oil and S.W.; sqzd. perfs.; P.B. to 7,100 ft.
Williams and Thompson No. 1 A. R. Kraemer. Loc.
Windsor Oil Co. No. 4 O. Parker, J. Waugh Sur. Drlg. sh. 1,241 ft.
Windsor Oil Co. No. 1-B C. D. Ley, Geo. Ayers Sur. Drk.
Windsor Oil Co. No. 2-A Ley, Geo. Ayers Sur. T.D. 6,856 ft.; tstg.
Windsor Oil Co. No. 4 H. E. Ley, J. Waugh Sur. Cg. 6,788 ft.
Windsor No. 5 H. E. Ley, J. Waugh Sur. Drlg. sh. 5,347 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 1 F. E. Gavin et al, A. M. Gentry Sur. T.D. 6,384 ft.; abd.
Humble O. & R. Co. No. 10 E. A. Grey, Perry & Austin Sur. Drlg. sh. 2,467 ft.
Humble O. & R. Co. No. 13 Grey, Perry & Austin Sur. Drlg. sh. 1,210 ft.
Humble O. & R. Co. No. 3 Herman Hospital, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 J. L. Jones, Perry & Austin Sur. Drk
Humble O. & R. Co. No. 2-B Port City, W. D. C. Hall Sur. T.D. 6,042 ft.; tstg.
Humble O. & R. Co. No. 3 Settegast, T. Choate Sur. Drk.
Humble O. & R. Co. No. 1 Tinkler, W. D. C. Hall Sur. Drk.
Humble O. & R. Co. No. 1 E. E. Watson. Drk.

Cordele—Jackson County

Crown Central Pet. Corp. No. 3 Faust, P. White Sur. (660 ft. S of No. 1). Drlg. sh. 2,110 ft.
H. J. Porter No. 1 Woussi, Peter White Sur. Loc.

Clam Lake—Jefferson County

Shell Pet. Corp. No. 2 McFaddin, S. A. Pace Sur. T.D. 8,198 ft., salt; top salt 8,156 ft.; 5-in. csg. 5,659 ft.; perf. 5,548-52 ft.; swbg.

Cheek—Jefferson County

Shell Pet. Corp. No. 1 Ed. Pleasant, C. Hildebrand Sur. Cg. sd. 7,678 ft.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 5 J. H. Phelan, A. Stivers Sur. Drlg. sh. 8,286 ft.

Spindletop—Jefferson County

Unity Oil Co. No. 1 Greer Noll, J. A. Veatch Sur., Blk. 7, Spindletop Hgts. Subd. (NE flank wildcat). Drk.

Hardin—Liberty County

Atlantic Ref. Co. No. 2 C. R. Wilson, A. B. Johnson Sur. Rig.
Geo. Echols-Shell Pet. Corp. No. 1 J. H. Cessna, H. B. Johnston Sur. T.D. 7,656 ft.; perf. 5½-in. csg. 7,649-52 ft.; flwd. S.W.; retstg.
Gulf Oil Corp. No. 4-A Barfield. T.D. 7,675 ft.
Gulf Oil Corp. No. 2 A. B. Tullos, H. B. Johnston Sur. T.D. 7,633 ft.; tstg.
Humble O. & R. Co. No. 1 M. H. Johnson, H. B. Johnston Sur. Drlg. sh. 2,390 ft.
Humble O. & R. Co. No. 3 W. S. Partlow, H. B. Johnston Sur. R.U.; (cor.).
Shell Pet. Corp. No. 3 J. H. Cessna, H. B. Johnston Sur. Drlg. sh. 6,212 ft.
Shell Pet. Corp. No. 4-A J. H. Cessna, H. B. Johnson Sur. Drk.
Tidewater Asso. Oil Co. No. 2-A Cessna, A. B. Hardin Sur. Drlg. sh. 4,640 ft.
Woodley Pet. Corp. No. 2 Chambers, H. B. Johnston Sur. T.D. 7,730 ft.; 5½-in. csg. 7,704 ft.
Woodley Pet. Co. No. 1 Emma Davis et al, A. B. Hardin Sur. Loc.
Woodley Pet. Co. No. 2 Emma Davis et al, A. B. Hardin Sur. R.U.
Woodley Pet. Co. No. 1 Lynott & Buffam, Jas. Robeson Sur. T.D. 7,900 ft.; abd.

McCrosky—Matagorda County

Pierce Est. No. 4-A Pierce. T.D. 6,626 ft.; 5½-in. csg. 6,621 ft.; flwd. 103 bbls. in 12 hrs.; ¼-in. ck.; died; swbd. oil and S.W.; P.B.

Bay City—Matagorda County

Atlantic Ref. Co. No. 1 Gola, E. Hall Sur. T.D. 9,759 ft.; 7-in. csg. 8,212 ft.
Hamman Expl. Co. No. 1 C. W. Badouh, E. Hall Sur. Drlg. sdy. sh. 9,050 ft.
Hamman Explh. Co. No. 3 Thompson, E. Hall Sur. Drlg. sdy. sh. 3,500 ft.

Segno—Polk County

Gulf Oil Corp. No. 3 A. Ragan, I.&G.N. Sur., sec. 15. Drlg. sh. 2,130 ft.
Gulf Oil Corp. No. 12 Wing. Drlg. sh. 5,210 ft.
Humble O. & R. Co. No. 9-B Kirby, M. Victor Sur. Drlg. sh. 4,623 ft.

Spurger—Tyler County

Republic Prod. Co.-Houston Oil Co. No. 11 Hurd fee, N. Hurd Sur. Drlg. 5,530 ft.

Magnet—Wharton County

Gray & Wolf No. 1 State, Colo. River Sur. 10¾-in. csg. 1,160 ft.; S.D. for high wtr.

Withers—Wharton County

Texas Co. No. 50-C Pierce Est., John Caldwell Sur. Drk.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Bryan Mound). M.I.M.
Glenn McCarthy No. 1 G. C. Street, D. H. M. Hunter Sur. Drk.
W. C. Neville et al No. 1 Houston Farms Dev. Co., Perry & Austin Sur. 10¾-in. csg. 1,170 ft.
Texas Co. No. 1 M. W. Jones, H.T.&B. Sur. Drlg. sh. 6,195 ft.; no report.
Texas Co. No. 5 Freeport Sulphur Co., H. Burt Sur. No report.

Burleson County

Peerless O. & G. Co. No. 1 G.C.&S.F. fee, James Lastley Sur. Drlg. sh. 1,410 ft.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Cordy Calvin, Tr., No. 1 Paul W. Sherman Est., James McFaddin Sur. (Moss Bluff area). Drk.

Fort Bend County

Henry C. Adams No. 1 Sury, H.&T.C.R. R. Sur., sec. 48 (Needville). Drlg. sh. 4,256 ft.

Galveston County

Sun Oil Co. No. 1 Cade, A. Dickinson. T.D. 8,120 ft., sh.; cmtd. 7-in. csg. 8,750 ft.; (protection string); D.S. stk.

Harris County

Commerce Oil Co. No. 1 Meaderbrook Dev. Co., J. R. Harris Sur. T.D. 8,501 ft.; making elec. sur.
H. H. Givens No. 2 F. K. Adone, David Middleton Sur. Drk.

Jackson County

Magnolia Pet. Co. No. 3-A West Rnch., Ramon Musquez Sur. 13⅜-in. csg. 1,346 ft.; W.O.C.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two: S.D.
Humble O. & R. Co. No. 6 McFaddin State "B," 1,980 ft. NW of No. 1 State Gulf of Mexico. Drlg. anhy. 1,770 ft.

Liberty County

Wallace & Hargrove et al No. 1 J. C. League, M. DeLos Santos Sur. Rig.
Sun Oil Co. No. 1 Caroline Jordan, L. Gedruf Sur. Cg. sd. 7,853 ft.
Texas Co. No. 1 Paige, James Hanney Sur. Drlg. sh.&L. 7,317 ft.

Matagorda County

Glenn H. McCarthy No. 1 Nancy Moffett et al, Susan Perkins Sur. R.U.
Ohio Oil Co. No. 1 W. D. Cornelius, P. C. Yarborough Sur. Drk.

Montgomery County

Deep South Pet. Corp. No. 1 Foster Lbr. Co., Preyor Bryan Sur. 10¾-in. csg. 700 ft.
J. Smith et al No. 1 J. V. Scott, F. A. B. Wheeler Sur. R.U.

Newton County

Republic Prod. Co. No. 1 Sabine Tram, Isaac Garner Sur. (NW Starks Prospect). Drk.

Polk County

Jack Frazier No. 1 S. H. Bergman, A. Viesea Sur. (3 mi. W of Goodrich). T.D. 675 ft.; run 10¾-in. csg.

Tyler County

Chapman Minerals Corp. No. 1 Angelina Co. Lbr. Co., James Corin Sur. Bldg. rd. to loc.

Waller County

Stanolind O. & G. Co. No. 1 Freeman. H.T.&C. Sur. No. 99. T.D. 11,076 ft.; to P.B.

Wharton County

Humble O. & R. Co. No. 1 Duncan, D. Wade Sur. (Core test); T.D. 7,500 ft.; abd.
Humble O. & R. Co. No. 1 Worington, S. F. Austin Sur. Drk.
Albert Plummer No. 1 Mrs. Corbett, Kuykendall Sur. Drlg. sh.&L. 2,781 ft.
Albert Plummer No. 2 M. Sorrell, S. F. Austin Sur. T.D. 3,733 ft.; 5½-in. csg. 3,690 ft.; P.B. 3,605 ft.; perf. 3,008-20 ft.; comp.; 1,200,000 ft. wet gas; ⅛-in. ck.; T.P. 1,450 lbs.

S. W. TEXAS WILDCATS

Atascosa County

Hartman Drlg. Co. No. 1 Smith and Mowinkle, Francisco Perez Sur. No. 172. T.D. 4,000 ft.; abd.
Mason Altgelt No. 1 J. G. Gibson, Francisco De La Garza Sur. Drlg. 1,505 ft.
G. C. Richardson No. 1 Fischer, A.B.& M. Sur. No. 1013. Sd. 844-55 ft.; W.O.C.
Western Gulf Oil Corp. No. 1 Vanegar, Francisco De La Garza Sur. Drlg. 1,250 ft.

Bastrop County

R. C. Franklin No. 2 Yarrington, Jose Manuel Bangs Sur. S.D. 1,604 ft.
Paul Texas and Ashby No. 1 J. T. Grizzard, Andrew Graham Sur. Drlg. sh. 4,755 ft.

Bee County

Atlantic Ref. Co. No. 1 Courtney, Geo. Kerr Sur. Drlg. 1,750 ft.

Bexar County

Fain-Harrison and Jenkins No. 1 Hansen, John Christopher Sur. 10-in. csg. 28 ft.; 6⅝-in. csg. 1,340 ft.; T.D. 1,340 ft.; abd.
Nami Herman No. 1 W. F. Fields, A. Bustillos Sur. T.D. 737 ft.; 5-⅛-in. csg. on bttm.; S.D.

Caldwell County

Banke Miller Oil Co. No. 1 Martindale, Hector McNeil Sur. T.D. 3,223 ft.; S.D.

Calhoun County

Hiawatha O. & G. Co. No. 2 J. J. Roemer, J. Ogsberry Sur. Drlg. sh. 6,367 ft.

De Witt County

Marjo Oil Co. No. 1 W. D. McCurdy, John Hunt Sur. No report.

Duval County

James Foster No. 1 Foster. B.S.&F. Sur. No. 268. Drlg. sh. 1,840 ft.
Frank Gravis No. 1 Megerle, J. Boyles Sur. (Palangana dome). Drlg. sd. and sh. 5,854 ft.
J. A. Huff No. 1 Worden & Drought, J. L. Soen Sur. 154 (2 mi. NW Charamousca field). Spd.
Magnolia Pet. Co. No. 1 Duval County Ranch Co., C.C.S.D.&R.G.N.G. Sur. No. 83. Drlg. 830 ft.
Rowan & Hope No. 1 Cuellar, sec. 69, (Tesoro field). T.D. 2,398 ft.; S.D.
Standard Oil Co. of Texas No. 1 Dolores Garcia Sur. T.D. 6,317 ft.; 7-in. csg. on bttm.

Edwards County

Evans & Love No. 1 Steve Brown, Blk. 6, G.W.T.&P. Sur. S.D. 6,261 ft.

Goliad County

Geo. Echols No. 1 Power, Wm. Lavery Sur. T.D. 5,303 ft.; abd.
Jack Frazier and Bunte Prod. Co. No. 1 Taylor. Drlg. 658 ft.
Sun Oil Co. No. 1 Lee Homer, John Payne Sur. Drlg. 557 ft.

Gonzales County

Heard-Hall & Young No. 1 Clark, Robt. S. Armistead Sur. T.D. 1,556 ft.; abd.

Guadalupe County

Banks-Miller Oil Co. No. 1 Union Central, R. G. Davis Sur. Drlg. 2,010 ft.
A. D. King Rosenbrock, Vincente Duran Sur. Drlg. sh. 270 ft.
H. G. Spiller No. 1 Allen, H. Cottle Sur. Drk.

Hidalgo County

R. E. Harding No. 1 Lynn, Juan Jose Hinojosa Sur. T.D. 7,300 ft.; perf. 5½-in. csg. 7,103-15 ft.; tstd. S.W.; perf. csg. 7,074-82 ft.; tstd. S.W.; sqzd. perf.; W.O.C.
Hidalgo Prod. Co. No. 1 Daskam Corp., Porc. 45, Blk. 34. T.D. 3,296 ft.; D.S. stk.; pulled drk. in; S.D.
Phillips Pet. Co. No. 1 Flores (deep test N of Samfordyce field). T.D. 5,880 ft.; cmtd. 7⅝-in. csg. 5,847 ft. (protection string). Cg. sdy. sh. 5,930 ft.
Union Sulphur Co. No. 1 Am.-Rio Grande Ld. & Ir. Co. (Mercedes). Cmtd. 7-in. csg. 8,417 ft.; drlg. sh. 9,045 ft.
Wheelock & Collins No. 1 Temple Lbr. Co., Lino Cavaos, Porc. 57-A. T.D. 5,064 ft.; S.D.

Jim Hogg County

Humble O. & R. Co. No. 2 Kelsey Bass, San Rafel Gr. Drlg. sh. 2,102 ft.

Jim Wells County

Mills Bennett Prod. Co. No. 1 W. R. Perkins, Lavaca Gr. T.D. 5,664 ft.; sidetracked; T.D. 5,664 ft.; abd.
Blanco Oil Co.-Buchanan Prod. Co. No. 1 Rattan, Blk. 14, L. G. Collins Subd. Drlg. sh. 4,957 ft.
W. G. Coates No. 2 Lindsay & Reed. Cg. 5,236 ft.
J. W. Cosner No. 1 C. B. Stillwell, Blk. 62, L. G. Collins Farm Tracts. Drlg. 1,500 ft.
H. M. Howell No. 1 E. A. Hawkins, San Diego de Abajo Sur. Sh. 1,041 ft.; 10¾-in. csg. 1,031 ft.; drlg. sh. 3,908 ft.
H. H. Howell No. 1 Mosser, Blk. 97, L. G. Collins Subd. T.D. 6,080 ft.; W.O.
H. H. Howell No. 1 Stillwell, Blk. 63, L. G. Collins Subd. Drlg. sh. 4,620 ft.
Humble O. & R. Co. No. 1 Wm. Adams, Marcellino Lopez Gr., Abst. No. 28. Drlg. sh. 5,253 ft.
Magnolia Pet. Co. No. 1 Martin, Ana Maria Vaco Gr. Drlg. sh. 2,900 ft.
Magnolia Pet. Co. No. 1 Vaiades Hrs., La Anima Sola Gr. T.D. 6,415 ft.; 6½-min. D.S.T. with pkr. set 6,391 ft.; I.P. 23,000,000 ft. gas; open flow; T.P. 3,525 lbs.; C.P. 3,650 lbs.
Shell Pet. Corp. No. 1 C. H. Von Blucher, Lucinda Best Sur. Cg. sd. S.O. 6,068 ft.
Southern Minerals Oil Corp. No. 1 J. R. Trussells, Lavaca Gr. 10¾-in. csg. 540 ft.; S.D. 4,000 ft.; abd.
Transwestern Oil Corp. No. 1 B. H. Dunlap, Sur. 179-181 (1½ mi. SW East Premont field). 18⅝-in. csg. 485 ft.

Kendall County

Geo. Dorsey No. 1 Flanagan, J. Sweeney Sur. No. 12. S.D. 350 ft.
Millican and Norman No. 1 Werner, J. F. Torrey Sur. T.D. 747 ft.; run csg.

Kerr County

Edminston No. 1 Saul, Sur. 47. S.D. 55 ft.
H. C. Starkey No. 1-A Saue, T.W.N.G. R.R. Sur. S.D. 345 ft.

Kimble County

Phillips Pet. Co. No. 1 Mudge, C.C.S.D.& R.G.N.G.R.R. Sur. No. 9. Drlg. L. 1,716 ft.; no report.
Plateau Oil Co. No. 1 Hunger, J. Dujner Sur. Drlg. 805 ft.; no report.

Kleberg County

Pure Oil Co. et al No. 1 State Ld., Tr. 68, Laguna Madre Bay, Lse. No. 528. Drlg. sh. 8,337 ft.

Lavaca County

A. C. McCord et al No. 1 Cora Russek, Blk. 33, J. C. Reynolds Sur. (S of Ezzell). R.U.

Lee County

Eleoussa Oil Co. No. 1 Sanders, J. Vin Roeder Sur. T.D. 4,398 ft.; prep. to resume drlg.
Fred Pederson et al No. 1 Brown, David Hudson Sur. Drlg. sh. 1,230 ft.
A. H. Tarver No. 1 J. W. Lawhon. Drlg. sh. 2,410 ft.; no report.

Live Oak County

J. K. Adair No. 1 Schultz Live Stock Co., Wm. J. Pierce Sur. 10¾-in. csg. 20 ft.; S.D. 494 ft. for wtr.
Bailey et al No. 1 McDermott & Co., Mark Kelly Sur. Drlg. 427 ft.
R. H. Feltner No. 1 Reed, I.&G.N. R.R. Sur. 15. R.U.
Hanna et al No. 2 West, C. O. Ragland Sur. S.D. 1,850 ft.
Holland Oil Co. No. 1 Wallace, Cameron Co. Sch. Ld. Sur. Drlg. 200 ft.
N. P. Oil Co. No. 1 Griffith, J. Poltevent Sur. No. 49. Drlg. 25 ft.
Humphrey et al No. 1 Schultz Live Stk. Co., A. E. Brown Sur. T.D. 2,513 ft.; sh.; abd.
Palmer et al No. 1 Brown, G. F. Simmons Subd. No report.
Richardson Pet. Co. No. 1 Geo. West, Blk. 406 (3 mi. NW Geo. West). Drlg. 1,632 ft.
. G. Schimmel et al No. 1 Geo. West, G. L. Haas Sur. T.D. 210 ft.
Tetbo Oil Co. No. 1 Ybanez, J. Poltevent Sur. No report.
Wallace & Jones No. 1 Burrows, Eneas Smith Sur. R.U.

McMullen County

Heard-Hall and Young No. 1-A Byrne, Geo. Pittuck Sur. No. 7. Loc.
Red Bank Oil Co. No. 1 Nueces Ld. & Livestock, J. McGrain Sur. R.U.
V. G. Schimmel No. 6 Hagist, sec. 108 (Lomo Alto). T.D. 2,297 ft.; abd.
V. G. Shimmel et al No. 2 Kountz, E.T.R. R. Sur. No. 5 (S part of county). T.D. 2,012 ft.; P.B. and set csg 1,280 ft. to test Cole sd.; flwd. gas and some oil; tstg.
Wm. Spice, Jr., No. 1 Edrington, A.B.& M. Sur. 57 (5 mi. E Loma Alto). Rig.

Maverick County

L. M. Lockhart No. 1 Ashbrook, W. J. Phillips Sur. No. 83. Drlg. L. 1,850 ft.
Wellington Oil Corp. No. 1-B Chittim, I. &G.N. Sur., Blk. 6, sec. 98, 14 mi. SE of Eagle Pass. R.U.

Medina County

J. W. Cromwell No. 1 J. W. Tondre. I. J. Rogers Sur. T.D. 1,250 ft.; P.B. 1,080 ft.; cmtd. csg. 1,021 ft.; shot 1,024-80 ft.; bailing.
Geo. Hayes and Tarver No. 1 Mann, J. H. Isbell Sur. No. 10. T.D. 400 ft.; rmg.
L. W. Stieren No. 1 Haegelin, Dolly Smitherman Sur. Drlg. 381 ft.
Taylor & Pepper No. 1 Saathoff, Peter Eichorn Sur. T.D. 935 ft.; S.D.
Ziegler et al No. 1 Wiemers, F. Thurmm Sur. S.D. 600 ft.

Milam County

Fritz Fuchs No. 2 Stork, Maria J. Delegado Sur. M.I.M.
Texedo Oil Co. No. 1 Paul Garves, C. Robertson Sur. S.D. 1,170 ft.; C.O.; set 7-in. csg. 1,167 ft.; S.D. 1,520 ft.

Nueces County

Seaboard Oil Corp. No. 1 F. C. Lockett, E. Villareal Sur. Drlg. sh. 6,759 ft.
Union Prod. Co. No. 1 Minnie Brown (Aqua Dulce area). Drlg. sh. 10,356 ft.

Refugio County

I. J. Allen No. 2 Rooke, Jose Miguel Addrite and Jose Maria Aldrite 6¾ Lge. T.D. 6,907 ft.; P.B. 5,440 ft.; perf. csg. 5,395-5,400 ft.; flwd. 30 bbls. dist.; ⅛-in. ck.; W.P. 2,100 lbs. sqzd. off perf.; reperf. 5,431-33 ft.; S.O. and S.W.; reperf. in 5,300-ft. zone.
I. J. Allen No. 3 Rooke, Jose Miguel Aldrite and Jose Marie Aldrite Sur. (933 ft. SE of No. 2). Drk.

San Patricio County

Humble O. & R. Co. No. 1 B. G. Henry,

4th Addn., Taft Farm Lds., Blk. 8, sec. 27, 2 mi. NE of Taft field. Drlg. sh. 4,716 ft.

Starr County

J. A. Clopton et al No. 1-A Bass, F. H. Rodriguez, Porc. 86, Lot 5, Clopton Subd. (1,500 ft. SW of No. 1). T.D. 3,269 ft.; rmg.
Sun Oil Co. No. 1 Smith, A. J. Smith Sur. Rig.
W. W. Zimmerman et al No. 1 Starr Co. Cattle Co., Juan De La Garza. Porc. 89. Drlg. sh. 1,805 ft.; no report.

Travis County

L. G. Priest No. 1 Mazock, J. M. Leavy Sur. No. 5. S.D. 646 ft.
R. F. C. Oil Co. No. 1 Jones, Reuben Hornsby Sur. No. 17. T.D. 1,066 ft.; tstg.

Webb County

Garrison & Paris No. 1 Benavides, Hale Subd. of M. Arispe Gr., C Blk. 107. 5½-in. csg. 1,009 ft.
Merle E. Morton No. 1 Laurel Bros., Sur. 333, Blk. 9. T.D. 2,025½ ft.; sd. S.O.; 7-in. csg. 2,015 ft.; tstd. 4,000,000 ft. gas and 8 to 10 bbls. oil; ½-in. ck.
W. R. Nicholson No. 1 fee. M. Valpe Sur. T.D. 2,918 ft.; D.P. stk.; fsg.
J. W. O'Byrne No. 1 Lacey, Mary E. Wideman Sur. S.D. 510 ft.

Williamson County

F. J. Anderson No. 1 Teichelman Absalam, Jett Sur. S.D. 900 ft.

Wilson County

Stapper Oil Co. No. 1 J. McDaniel, I Manchoca Sur. S.D. 2,490 ft.; reported gas show at 2,250 ft.

Zapata County

C. H. Lewis No. 1-A Garza, Blk. 13, Sur. 413. Drlg. rk. 1,690 ft.
Thompson & Lowe No. 1 Ramirez, Blk 6, Doyle Subd. of Porc. 18. S.D. 700 ft.

WEST TEXAS WILDCATS

Andrews County

Fuhrman Pet. No. 1 G. O. Ashton, sec. 12, Blk. A-42, P.S.L. Sur. R.U.R.
Olson Drlg. Co. No. 1 Lockhart-Brown. 5 mi. W of south end of Fuhrman pool. R.U.P. 4,780 ft.

Cochran County

Texas Co. No. 1 D. S. Wright, Lge. 115, Lab. 23, Potter Co. Sch. Lds. Drlg. 4,065 ft.

Coke County

Barnett Pet. Co. No. 1 J. R. Mims, sec. 39, Blk. W, T.&P. Sur. Rng. 2-in. 5,051 ft.

Crane County

Gulf Oil Corp. No. 4 McKnight, sec 8, Blk. B-21, P.S.L. Sur. Fsg. 6,082 ft.
Gulf Oil Co. No. 2-B State-Lassiter, University Sur., Blk. 30, sec. 27. Drlg. 1,125 ft.
Texas Co. No. 1-G Univ., sec. 7, Blk. 30, Univ. Sur. Drlg. 2,980 ft.

Crockett County

Short & Gillette No. 1 J. W. Owens, Jose Zunegas Sur. S.D.R. 1,906 ft.

Culberson County

Harry J. W. Niehaus No. 1 fee, Blk. 109, sec. 13, P.S.L. Sur. 1,800-ft. test. S.D. 2,500 ft.
Quito Oil Co. No. 1 Cameron Lbr. Co., sec. 24, Blk. 81, P.S.L. Sur. S.D.R. 945 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. Drlg. 1,275 ft.

Ector County

Landreth Oil No. 1-P Scarbauer, sec. 11, Blk. A, P.S.L. Sur. Swbg. 4,199 ft.
Sinclair Prairie No. 3-A Johnson sec. 37, Blk. 43, T.&P. Sur. Drlg. 4,392 ft.
Sinclair Prairie No. 2-B P. Moss, sec. 40, Blk. 44, T.&P. Sur. Drlg. 3,040 ft.
Stogner et al No. 1 Hendrick, sec. 4, Blk. 43, T.&P. Sur. Prep. to abd. 4,329 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel. Fsg. 3,571 ft.

Floyd County

Mills Bennett No. 1 T. Montgomery, F. J. Latham Sur., 6 mi. S of Floydada. Fsg. 5,960 ft. last report.

Gaines County

Osage Drlg. Co. No. 1 B. E. Miller, sec. 281, Blk. G, W.T.R.R. Sur. Drlg. 3,420 ft.
Riddle & Warr No. 1 J. B. Brown et al, sec. 26, Blk. G, C.&M.R.R. Sur. D.& A. 5,541 ft.

Garza County

Gulf Oil Corp. No. 1 Swanson, sec. 25, Blk. 2, H.&G.N. Sur. Drlg. 6,965 ft.

Hockley County

Gulf Oil Corp. No. 1 Mallett Ld. & Cattle Co., sec. 6, Blk. X, P.S.L. Sur. D.&A. 5,125 ft.
Gulf Oil Co. No. 2 Mallett, Lge. 34, Labor 25. Drlg. 4,735 ft.
Sid W. Richardson No. 2 Slaughter, Lge. 39, Labor 58, Maverick Sur. R.U.S.T. 4,744 ft.
Skelly Oil Co. No. 1 Elwood Est., Howard C.S.L. Sur., Lge. 15. Drlg. 4,837 ft.

Howard County

Anderson & Prichard No. 1 H. Hyman Est., sec. 85, Blk. 29. W.&N.W. Sur. M.I.M.
Lockhart Pet. Corp. No. 2 Robert Scott, W.&N.W. Sur., Blk. 29, sec. 86. P.B. 2,932 ft.; C.O.
W. B. Powell, Trustee, No. 1 Guitar Trust, Blk. A, sec. 17, Bauer & Cockrell Sur. Fsg. 2,645 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Drlg. 4,730 ft.
Haymon Krupp No. 1 Briggs, sec. 24, Blk. 73, Twp. 7, T.&P. Sur. W.O.C.; 7-in. 4,354 ft.

Jeff Davis County

Joiner Oil Corp. No. 1 Jones-Coffield. S.D. 3,742 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., sec. 151, H.E.&W.T. Sur. Drlg. plug on split 7-in. 4,450 ft.

Martin County

W. D. Anderson No. 1 J. R. Vance, sec. 9, Blk. 36, T.&P. Sur. Drlg. 3,865 ft.
T. G. Shaw No. 1 H. H. Wilkerson, sec. 35, Blk. A, Bauer & Cockrell Sur. Spd.

Menard County

C. D. Haggerty No. 1 Callon, sec. 36, Jim Franz Sur. S.D. 1,270 ft.

Pecos County

J. N. Gregory et al No. 1 Humble-O'Niell, H.&G.N. Sur., Blk. 10, sec. 74. Lost hole; skidded 20 ft. east; drlg. 145 ft.
J. D. Kugle, Jr., No. 1 H. L. Cordz, sec. 101, Blk. 8, H.&G.N. Sur. S.D. 1,825 ft.
Magnolia Pet. Co. No. 1 McKee. P.B. 6,197 ft.; P.B. 6,180 ft.; P.B. 5,300 ft.; R.U.R.
E R. Minshall et al No. 1 Haynie, sec. 28, Blk. 146, T.&St.L. Sur. Tstg. wtr. shut off 3,170 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 7,275 ft.
Union Oil & Mining Co. No. 1 First Natl. Bnk. of Ft. Stockton, sec. 6, Blk. 9, H.&G.N. Sur. S.D. 1,760 ft.

Reagan County

Culbertson & Irwin No. 1 J. F. Nunn, sec. 26, Blk. B, L.&S.V. Sur. M.I.M.

Reeves County

Frankley & Rice No. 1 W. A. Tunstill, sec. 10, Blk. 56, T.&P. Sur. Drlg. 208 ft.
Mo Oil Co. No. 1 Papham, sec. 18, Blk 54, T.&P. Sur. Drlg. by tools 2,380 ft.

Scurry County

Coffield & Guthrie No. 1 E. E. Spears et al, sec. 130, Blk. 97, H.&T.C. Sur. Drlg. 2,796 ft.
Gursham-Hunter No. 1 C. M. Wellborn, sec. 142, Blk. 25, H.&T.C. Sur. S.D. 10-in. 670 ft.
Robinson Drlg. Co. No. 1 Martin, sec. 147, H.&T.C. Sur. P.B. 2,500 ft.; S.D.

Sterling County

J. W. Sward No. 1 Brennand, sec. 107, Blk. 2, H.&T.C. Sur. Drlg. 2,817 ft.

Stonewall County

General Crude Oil Co. No. 1 J. D. Smith, sec. 371, Blk. 2, H.&T.C. Sur., 12 mi. N Rotan. Drlg. cmt. wtr. shut off 4,755 ft.
E. C. Lawson No. 1 Ada Pumphrey, Eli Chandlers Sur. Drlg. 3,024 ft.
Swanson & Parriott No. 1 H. T. Carlisle, sec. 293, Blk. D, H.&T.C. Sur. Tstg. 5,176 ft.

Terrell County

Schermerhorn Oil No. 1 H. P. Allison, sec. 22, Blk. B-2, C.C.S.D. & R.G.N.G. Sur. 2,500-ft. test. Drlg. 972 ft.

Tom Green County

Spinner No. 1 Reed, Mason Ferry Ranch. Sur. S.D. 4,495 ft.
J. B. Watson No. 1 Llano, C.S.L. Sur., sec. 16. 500-ft. test. W.O.C. 165 ft.

Val Verde County

A. W. Little No. 1 R. W. Sellers, sec. 34, H.&G.N.R.R. Sur. 1,500-ft. test. Drlg. 200 ft. last report.

Ward County

J. E. Fitzpatrick et al No. 1 F. K. Dyer, sec. 135, Blk. 34, H.&T.C. Sur. S.D.O. 5,085 ft.
Peerless O. & G. No. 1 F. M. White, sec. 36, Blk. 1, H.&T.C. Sur. Drlg. 1,235 ft.
S. J. Rixford No. 1 W. B. Crump, sec. 2, Blk. 34, H.&T.C. Sur. Drlg. 2,895 ft.

Winkler County

J. R. Sharp No. 1 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. C.&P.
J. R. Sharp No. 2 Sharp-Crume, sec. 7, Blk. B-2, P.S.L. Sur. Loc.

Yoakum County

R. H. Gill No. 1 S. J. Doxon, sec. 611, Blk. D, Gibson Sur. Drlg. 5,189 ft.
Gulf Oil No. 1 Lucy K. Moore, sec. 897, Blk. D. R.U.S.T. 4,859 ft.
Helmerich & Payne No. 1 S. O'Dowd, sec. 896, Blk. D, J. H. Gibson Sur. Rng. tbg. 5,035 ft.
Magnolia Pet. Co. No. 1 Lynn, sec. 770. Drlg. 2,330 ft.
Phillips Pet. No. 1 W. A. O'Brien, sec. 442. Drlg. 4,365 ft.
S. C. Yingling et al No. 1 Nettie Barrier, sec. 6. Drk.

E. C. TEXAS WILDCATS

Anderson County

J. H. Gardner No. 1 G. W. West, L. Hopkins Sur., 2 mi. SE of Denison Springs. Loc.
H. L. Hunt No. 1 Shaw & Cern, D. Parker Sur. W.O.C.; P.B. depth 3,900 ft.

Dallas County

Plaza Oil Co. No. 1 Davidson Marchants Sur., 1 mi. NW of Seagoville. S.D. 3,528 ft.

Falls County

M. H. Hayes No. 1 A. Garrett, J. M. Sanches Sur., 2 mi. NE of Lott field. Bailing wtr.; R.U.P. 1,366 ft.

Franklin County

V. A. Hughes No. 1 W. E. Haydon, W. Landrum Sur., 1 mi. SE of Hagansport. Cg. 4,345 ft.

Freestone County

G. Shryock No. 1 M. S. Clark, M. D. Canton Sur., 8 mi. NW of Teague. Drlg. wtr. well.

Grayson County

Epenhauser No. 1 J. M. Rogers, L. Kelly Sur., 1½ mi. NE of Whitesboro. Drk.
O. L. McDougal No. 1 E. Jackson, Holland Coffee Sur., 7 mi. N of Pattsboro. Loc.
Mildred Oil Co. No. 1 L. C. Neatherly, Chas. Quillers Sur., 1 mi. S of Collinsville. Tstg. 3,882 ft.

Gregg County

Humble-Gulf No. 1 Porter Hortor, H. G. Hudson Sur., 3½ mi. SW of Longview, 7,500-ft. test. W.O.C. 2,405 ft.

Henderson County

Lignite Pet. Corp. No. 1 I. P. Tidemore, P. Tumlinson Sur., 4 mi. S of Malakoff. D.&A. 4,116 ft.
McElreath & Suggett No. 1 T. L. Dean, C. M. Walters Sur., 1 mi. W of Athens. Loc.

Houston County

Humble O. & R. Co. No. 1 Daily & Taylor, J. G. Thompson Sur. Comp.; 24,000,000 ft. gas.
Humble Oil & Ref. Co. No. 1 C. C. Hill, J. L. LaReviere Sur., Navarro Crossing field. Drlg. 5,491 ft.
Sun Oil Co. No. 1 R. S. and H. H. Daily, J. G. Thompson Sur., 3 mi. SE of Navarro Crossing. Tstg. 5,893 ft.; 25 B.O.P.D.

Kaufman County

Sam Knoerr No. 1 J. B. Hunter, P. Walker Sur., 5 mi. S of Terrell. M.I.M.
W. S. McGee No. 1 Pritchett, J. Hendricks Sur., 7 mi. W of Mabank. S.D.; W.O. 3,100 ft.

Lamar County

Dahl Bros. & Barr No. 2 McQuiston, R. Russell Sur., ½ mi. N of Paris. R.U.

Leon County

Lone Star Gasoline No. 2 G. W. Lee, R. Hunter Sur., 5 mi. SE of Buffalo gas area. C.O. 5,797 ft.

Limestone County

J. S. Cosden, Jr., No. 1 J. J. Bower, J. Breeding Sur., NW part of county. Tstg. 1,547 ft.; S.O.
A. H. Larver No. 1 C. E. Herrod, Eli Davis Sur., 5 mi. S of Grossbeck. D. &A. 3,842 ft.

McLennan County

Lisle Steele No. 1 C. H. Cherry, M. Martinez Sur., 4½ mi. SE of Waco. S.D. 945 ft.
J. E. Thompson No. 1 F. E. Goodman, C. O'Campo Sur., 4 mi. S of Waco. S.D. 420 ft.

Nacogdoches County

C. W. Voyles et al No. 1 M. E. Rider, O. W. Randall Sur., 3 mi. E of Caro. Drlg. 4,405 ft.

Navarro County

B. T. Fearis No. 1 W. Montgomery, I. Redding Sur., 7 mi. S of Kerns. Drlg. 1,580 ft.
Howze Oil No. 1 J. A. Jackson, R. C. Doon Sur., ½ mi. E of Powell. Loc.

Rains County

Parsons & Andree No. 1 F. H. Glass, E. E. Lawhorn Sur., 1¾ mi. SE of Point. Drlg. 1,840 ft.

Red River County

Daniels et al No. 1 J. J. Gaston, J. Guest Sur., 2 mi. S of Detroit. S.D. 500 ft.
Walters et al No. 1 Phamplin, W. Moore Sur., 3 mi. SE of Kanawha in NW part of county. S.D. 555 ft.
C. E. Whitehead No. 1 R. H. Ringwald, A. Moore Sur., 1 mi. NW of Manchester. S.D. 630 ft.

Smith County

Combest et al No. 1 Dora Kendall; J. Williams Sur., 1¼ mi. SW of Jamestown. S.D.R. 3,210 ft.

Van Zandt County

W. S. King No. 1 Edna W. Watson, M. G. Whitaker Sur., 5 mi. S of Grand Saline. R.U.

EAST TEXAS

(Border counties)

Bowie County

King Oil Corp. No. 1 Watts, Geo. Brinlee Sur. T.D. 4,574 ft.; prep. deepen.

Cass County

Harry Hanbury No. 1 Echols et al, SE cor. Echols tr., Wm. Mayes Sur. Drlg. sh.&sd. 4,380 ft.
Texarkla Oil Corp. No. 1 Mayo, Bryant Holmes Sur. Drlg. sh.&L. 4,790 ft.
Texas Co. No. 2 Chatten Est., Wm. Myers Sur. Set 9⅝-in. csg. 2,175 ft.; drlg. sd.&sh. 4,163 ft.

Marion County—Rodessa

Ark.-La. Gas Co. No. 1 Bodgett, Allen Urquhart Sur. Set 10¾-in. csg. 1,007 ft.; drlg. sh. 1,415 ft.
Ark.-La. Gas Co. No. 4 Holland, Hanks Sur. Drlg. L.&sh. 4,762 ft.
Ark.-La. Gas Co. No. 1 Johnson, Alex Johnson Sur. D.S.T. 5,984-6,018 ft.; ⅝-in. ck. bttm.; ½-in. ck. top; open 9 min. rec. est. 30,000,000 ft. gas; 11 jts. drlg. fluid; top 2 jts. mud and drlg. wtr. cut with gas; cg. L.&sh. 6,080 ft.
Ark.-La. Gas Co. No. 1 Walker, Humphries Sur. Drlg. sh.&L. 3,215 ft.
T. Bell et al No. 1 Moseley, D. Lane Sur. T.D. 2,768 ft.; S.D.
Gulf Oil Corp. No. 3 Grubaugh, Coy Sur. Drlg. sd.&sh. 1,875 ft.
Holcomb & Thomason No. 1-C Henderson, R. Bennington Sur. Drlg. rd. bds. 3,966 ft.
Hollandsworth Drlg. Co. No. 1 Hill, 15-ac. tr., Smith Sur. Set 5-in. csg. 5,979 ft.; T.D. 6,012 ft.; comp.; 380 B.P.D.; ¼-in. ck.; T.P. 300 lbs.; C.P. 950 lbs.
Ohio Oil Co. No. 4 Moseley, J. P. Francis Sur. Comp.; 16 B.P.H.; ¼-in. ck; T.P. 300 lbs.; C.P. 800 lbs.; set 7-in. csg. 6,082 ft.; T.D. 6,114 ft.
Phillips Pet. Co. No. 2 Beard, Bennington Sur. R.U.

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Phillips Pet. Co. No. 2 Benefield, J. Hanks Sur. Drlg. sh.&L. 3,560 ft.
Shell Pet. Corp. No. 3 Schluter, Wm. Smith Sur. Set 8⅝-in. csg. 1,043 ft.; W.O.C.

Marion County—Other

W. L. Woods No. 1 Wm. Burr Est., M. G. Nall Sur. Comp.; 27 B.P.D.; pmp.; T.D. 937 ft.

Panola County

Texas Co. No. 1 Claude Adams, T. Cox Sur. Top lower Marine 7,792 ft.; drlg. blk. sh. 9,707 ft.

Sabine County

Hugo Allen No. 1 Bwoho, Isaac Low Sur. Drlg. sdy. sh. 2,350 ft.
Pet. Heat & Power Co. No. 1 Jasper State Bank, McDonald Sur. T.D. 2,506 ft., sd.; S.D.W.O.

Shelby County

Center Oil Co. No. 1 Windham, A. H. English Sur. T.D. 3,422 ft.: set 6⅝-in. csg. pmpd. 10 bbls. oil, 500 bbls. S.W.
Maillard & Locke No. 1 W. E. Roller Est., Sullins Sur. D.&A. 6,510 ft.
W. A. Reddit No. 2 Pickering Lbr. Co. P. J. Loggins Sur. Set 7-in. csg. 2,920 ft.; T.D. 4,420 ft.; Woodbine sd. 2,-905-10 ft.; flwg. in pits; arng. dpn.

NORTH TEXAS WILDCATS

Archer County

Fain-McGaha No. 1 McCrory G, sec. 44, A.T.N.C.L. Sur. 6⅝-in. csg. 4,720 ft.; O.S. 4,727-60 ft.; shot, 40 qts.; C.O. and P.O.P.
Helmerich & Payne et al No. 2 L. F. Wilson, Blk. 25, A.T.N.C.L. Sur. Testing at 5,105-16 ft.
Panhandle Ref. Co. et al No. 1 H. O. Prideaux, A. Rohus Sur. A-1126. Drlg. 2,372 ft.
Louis Sikes et al No. 1 Ford, T. M. Cecil Sur. A-982. 4,500-ft. test; Tstd. S.W.; S.D.O.

Baylor County

J. Rogers No. 1 C. F. Elam et al, J. Smith Sur. A-285. S.D. 1,492 ft.
H. F. Wilcox No. 1 J. E. Fritz, D. Barlow Sur. A-10. Loc.

Clay County

L. T. Burns No. 1 Lyles, S.A.U.A. Sur. No. 403. Drlg. 4,110 ft.
Walter Gant No. 1 Bryant Edwards, S. C. Beldon Sur. A-12, 6,000-ft. test. 6⅝-in. 5,990 ft.; S.L. 5,994-6,016 ft.; drlg. plug and bailed show oil; S.D.O. Drlg. 4,970 ft.
Wood Pet. & Roy. Corp. No. 1 I. H Kempner, Blk. 44, Bosque Co. Sch Ld. Sur. A-10. S.D.O. 2,330 ft.

Cooke County

Sinclair Prairie Oil Co. No. 1 Mrs. J. D Putnam, T. W. Ward Sur. No. A-1089. 2,686 ft.

Denton County

A. T. Campbell No. 1 W. C. Kimbrough, R. Howard Sur. No. A-543. Loc.

Grayson County

Mildred Oil Co. No. 1 L. C. Neatherly, Chas. Quillen Sur. Drlg. bkn. sd.&L. 3,872-90 ft.; S.D.; rig repairs.

Hardeman County

Hillsboro Oil Co. No. 1 Thomas, sec. 314, W.&N.W. Sur. Spudded and set surf. csg.

Jack County

Noah Daves No. 1 K. D. Baker sec. 2709 T.E.&L. Sur. 4,000-ft. test; S.D.O. 1,930 ft.

Knox County

Roeser Pendleton and I.T.I.O. No. 1 G. H Beavers, sec. 151, H.&T.C. Sur. Drlg 2,686 ft.

Montague County

H. H. Powell No. 1 Arch Durham, W. J. Wagoner Sur. A-936. S.D. 822 ft.
J. W. Sorrell et al No. 1 J. E. Walthall, Sam H. Smith Sur. A-662. S.D. 3,777 ft.

Wichita County

Continental Oil Co. No. 1 State Ins. Asylum, Blk. 1, Cherokee Co. Sch. Ld. 6⅝-in. 5,075 ft.; SL 5,076-5,128 ft.: drlg. plug; flwd. 90 bbls. in 3 hrs.; trtd. with 8,000 gal. acid; est. 150 B.P.D.; tstg. R.U.S.T. to D.D.
Madden & Goldsmith No. 1 Jackson, Blk. 20, Denton Co. Sch. Lds. S.D.O. 4,505 ft.; 6⅝-in. 2,742 ft.; perf. csg. 2,630-41 ft.; H.F. oil; W.O.T.

Wilbarger County

Consolidated Oil Co. No. 1 Ancell, sec. 35, H.&T.C. Sur. Matl.
Target Drlg. Co. No. 1 W. T. Waggoner, sec. 27, H.&T.C. Sur., Blk. 6. Drlg. 2,080 ft.

Wise County

Latex Oil Co. No. 2 J. R. Smith, 2 mi. SE Bridgeport. Drlg. 3,520 ft.

Young County

Horwitz & Oldom No. 1 C. J. Taach B. sec 248, T.E.&L. Sur. Drlg. 3,605 ft.; 6⅝-in. 4,113 ft.; G.L. 4,113-36 ft.; show oil; drlg. plug, small show oil; now drlg. 4,210 ft.

RANGER (CENTRAL TEXAS) DISTRICT

Brown County

Buckler No. 1 Jacobs, Kerr Co. Sch. Lds., Abst. 278. Tstg. 1,568 ft.
Evans No. 1 Garms, sec. 12, Blk. 1-11, H.&T.B. Sur. S.D. 968 ft.; T.D.
Hightower O. & R. Co. No. 1 Payne, sec. 31, H.&T.C. Sur. Fsg. 540 ft.
Lynn & Jordan No. 1 Eades, J. West Sur., 7 mi. SW of Santa Anna. S.D.R. 415 ft.
Moore No. 1 Smith, Jno. S. Thomas Sur. No. 53, Abst. 897. W.O.C. 1,578 ft.
Whatley No. 1 Browder, C.T.R.R. Sur., Abst. 281. T.D. 1,095 ft.; S.D.

Callahan County

Cooper, Weeks & Hughes No. 1 C. D. Straley, 660 ft. from W L, 1,880 ft from N L, sec. 370, Geo. W. Denton Sur. Ordovician test; C.O. 4,450 ft.; T.D.
Dobbs Oil Co. No. 1 Finley, sec. 75, Bayland Orphans Home Ld. Drlg. 865 ft.
J. H. Howell No. 1 E. I. Vestal, 1,149 ft. E line, 1,000 ft. N line, Jesse Dyson Sur., 2 mi. NE Cross Plains. Drlg. 3,-583 ft.
J. C. Jackson et al No. 1 Thompson, 2 mi. S of Eula, sec. 30, B.B.B.&C. Sur. S.D. 1,645 ft.

Coleman County

Anzac Oil Corp. No. 1 Burk. A Williams Sur. Est. 15 B.O.P.D. 2,458 ft.; T.D.
F. L. and E. R. Cooper No. 1 W. R. Stockard, 330 ft. from NL, 330 ft. from WL N½ SE¼ sec. 23, T.&N.O. Sur. Rotary to 3,650 ft.; S.O. 3,657 ft.; shot; blew in and lodged tools; fsg.
Garrett Oil Co. No. 1 W. S. Smith et al, 4 mi. SE of Coleman, J. Thiele Sur. H.F.W.; est. 2,000,000 ft. gas; U.R. 2,-200 ft.
Bob Murray No. 1 Dibrell, H. Kigan Sur near Camp Colorado. Prep. treat 2,825 ft.

Comanche County

Compton No. 1 Griffin, Blk. 2, Commanche Co. Sch. Lds. Drlg. 1,990 ft.
Elmore No. 1 Moorman, sec. 37, D.D.& A. Sur., 3 mi. NE of Sipes Spgs. Sp. & S.D.
Loraine No. 1 Haile, sec. 9, Blk. 3, H. &T.C. Sur. Fsg. 2,707 ft.
Sells Pet. Co. No. 1 Smith, sec. 12, Blk. 2, H.&T.C. Sur. P.B. 2,285 ft.; crooked hole.

Eastland County

Baker No. 1 Mullroy, sec. 1, Wm. Ahrenbeck Sur., 5 mi. NW of Rising Star. Drlg. 3,065 ft.
Dodds Oil Co. No. 1 Greer, J. E. Har Sur., Ellenburger test. S.D.; wtr. 500 ft.
Hayner, Reaves & Hose No. 1 P. L. Larkin, 3 mi. NW Rising Star, 912 ft. from W line, 546 ft. from S line, NW¼, sec. 40-2, E.T.R.R. Sur. Tstg. 3,098 ft.

Erath County

McGee Dev. Co. No. 1 Till Robinson, Wm. Ashworth Sur., 2 mi. SE of Desdemona S.D. 1,750 ft.

Fisher County

Forest Dev. Corp. & Daube No. 1 L. G. Bennett, 660 ft. from N and E lines, sec. 51-3, H.&T.C. Sur. Rotary to 4,500 ft., 3 mi. SW of Rotan. Comp. 18 B.O.P.D.
Forest Dev. Co. No. 1 Morrow, sec. 48, Blk. 2, H.&T.C. Sur. Drlg. 3,010 ft.
Owens-Snebold & A. C. Varner No. 1 J. H. Millsap, 3,500-ft. wildcat, 2 mi NW McCaulley, 330 SL 330 WL sec 61-2, H.&T.C. Sur. Moving on larger rig; 530 ft.
T. G. Shaw Oil Corp. and Texas Co. No. 1 John Stribling, sec. 110, Blk. 3, H.&T.C. Sur. Drlg. 2,430 ft.

Haskell County

Algord Oil Co. No. 1 J. F. Jones, 330 ft. from S and W lines, E. T. Roche Sur. No. 4, Abst. 525. Loc.
Fain-McGaha Oil Corp. No. 1 T. G. Hendrick, C W½ sec. 104, Indianola Ry. Sur. S.D. 3,089 ft.; sulfur wtr.
Forest Dev. Co. No. 1 Bankers Life Co., J. F. Morgan Sur. No. 59. S.D. O. 3,850 ft.
Heenam & Coe No. 1 Jones, Corryell Co. Sch. Lds. Drk.
Marland Drake No. 1 Cob, J. F. Benson Sur. No. 96. Loc.

Jones County

Brown Eagle Oil Co. No. 1 Haynes, sec. 191, Lemuel Andrews Sur. U.R. 1,745 ft.
Dunigan Bros. and Fred Hyer No. 1 Gaither, 4½ mi. N of Anson, sec. 38, B.B.B.&C. Sur. Drlg. 3,157 ft.
R. B. Farris No. 1 Chas. Donohoo. 220 ft from S and E lines, N½ sec. 5, B.B.B &C. Sur. Fsg. 2,090 ft.
Grisham-Hunter No. 1 Appaling, sec. 32, B.B.B.&C. Sur., 4 mi. SW of Stamford. Drlg. 2,203 ft.
Grisham-Hunter Corp. No. 2 E. D. Appling, 1,140 ft. fr. E L, 1,208 ft. S L. NW¼ sec. 32, B.B.B.&C. Sur. Set csg. 2,350 ft.; S.O.
S. C. Herring No. 1 B. L. Ellis, 330 ft. fr. N and E lines, SE¼ sec. 8-15, T.&P. Sur. Loc.
Humble No. 1 Dallas Joint Stock Land Bank, 990 ft. from W line, 4,458 ft. from S line of M. Fragosa Sur. 267. D.&A. 3,897 ft.
Humble O. & R. Co. No. 1 Huddleston, sec. 49, Blk. 18, T.&P. Sur. Drlg. 1,870 ft.
N. H. Martin & Son No. 1 J. W. Wyatt, 150 fr. S L, 316 fr. E L, W 102 ac. in sec. 4-14, T.&P. Sur. D.&A. 1,750 ft.
Pet. Producers No. 1 McDuff, sec. 32, Blk. 15, T.&P. Sur. Drlg. 1,300 ft.
S. B. Roberts Co. No. 1 Roy E. Prichard. 205 ft. fr. S L, 2,428 fr. E L, J. E. Cockrell Subdiv. 2, G. Martinez Sur 195. Loc.
Shaheen Oil Co. No. 1 T. B. McCoy, 595 ft. from N line, 660 ft. from E line, sec. 1-16, T.&P. Sur. D.&A. 2,523 ft.
Sinclair Prairie No. 1 Williams, sec. 40, Blk. 18, T.&P. Sur. M.I.M.

Nolan County

Oyster, Harkrider et al No. 1 J. H. Withers, C SW¼ sec. 65-21, T.&P. Sur. Wildcat to drill 4,000 ft.; T.D. 3,667 ft.

Runnels County

Homer Price et al No. 1 Beddo, sec. 51, Thompson Casey Sur. Comp. 6 B.O. P.D.

Shackelford County

Beck No. 1 Dyer, sec. 63, Blk. 11, T. &P. Sur. D.&A. 1,112 ft.
Joe DeGrazier No. 1 Harbough, E cen. part of county, sec. 1,563, T.E.&L. Sur. 4,500-ft. test. S.D.O. 3,171 ft.
Forest Dev. & Helmerich & Payne No. 1 T. G. Hendrick, C sec. 1, A.B.&M. Sur. Show gas and oil cored 4,838-45 ft.; T.D. 5,056 ft.; set 7-in. to 4,818 ft. to test showing 4,819-37 ft. in Marble Falls; last report.
R. H. Gordon & Frank Pethybridge No. 1 C. B. Snyder, 330 ft. fr. N and E lines, sec. 38, L.A.L. Sur., 4,500-ft. test. Rng. 8¼-in. 1,990 ft.
J. G. Hammond No. 1 Coker, 1,620 ft. from S line and 1,020 ft. from W line, sec. 159, B.B.B.&C. Sur. Drlg. 3,940 ft.
Jones & Stasney No. 1 Davis, sec. 50, Blk. 13, T.&P. Sur. Fsg. 1,198 ft.
D. W. Power No. 1 Black Ranch, C SE 80 ac. of NE¼ sec. 391, T.E.&L. Sur., Ellenburger test.

Stephens County

Lone Star No. 1 E. H. Brooks, 400 ft. from S and W lines, NE 200 ac. of sec. 54-7 T.&P. Sur. Tstg. 2,000,000 ft. gas 3,723-27 ft.
Lone Star No. 1 J. S. McKee, 660 ft. from N line, 660 ft. from W line, sec. 41-7 T.&P. Sur. U.R. 3,724 ft.
G. Willard Rich No. 1 J. W. Andrews, 330 ft. W line, 450 ft. S line, NW¼ sec. 39-7, T.&P. Sur. Comp. 37 B.O.P.D.

Taylor County

A. R. Forester et al No. 1 Frederickson, sec. 1, Guadalupe Co. Sch. Lds. Sur. No. 120. U.R. 2,318 ft.

Throckmorton County

Beacon O. & R. Co. No. 1 Hawes Est., sec. 979, T.E.&L. Sur. Swbg. S.W. 4,070 ft.; T.D.
Jones & Stasney No. 1 C. T. Brockman 330 ft. S line, 330 E line sec. 95 Comanche Indian Sur. T.D. 4,706½ ft.; est. 1,000 to 1,500 B.O.P.D.; trying drill underreamer lugs; T.D. 2,700½ ft.
Marland-Drake No. 1 Dickie Bros., center T.E.&L. Sur. 2226. S.D. 4,085 ft.
Stasney et al No. 1 Hunt, sec. 965, T. E.&L. Sur. U.R. 1,628 ft.
White & Duncan No. 1 Raynolds Cattle Co., 330 ft. from S and W lines, NE¼ sec. 83, Comanche Indian Reservation. U.R. 2,530 ft.

MISSISSIPPI

Calhoun County

S. & O. Properties, Inc., No. 1 G. C. Cooned, SE NE sec. 12-24n-8e. T.D. 2,-300 ft., rd. bds.; S.D.

George County

Cleve Love et al No. 2 J. J. Newman Lbr. Co., C SW sec. 9-1s-8w. T.D. 1,-380 ft.; R.U.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, sec. 13-7s-10w. S.D. 2,700 ft.

Hinds County

Cleve Love et al No. 1 S. F. Johnson, NE cor. SE¼ sec. 29-6n-1w. Set 7-in. csg. 3,355 ft.; T.D. 3,707 ft.; S.D.
Cleve Love et al No. 1 Progressive Realty Co., SE SW sec. 35-6n-4w. Drlg. blk. L. 6,598 ft.

Lamar County

Southern Miss. Pet. Co. No. 1 Morris, SE sec. 4-2n-1w. T.D. 3,029 ft.; T.A.

Rankin County

Wilmut G. & O. Co. No. 1 Pearl City Well, SW SW sec. 31-6n-26. Set 5-in. csg. 234 ft.; set 9-in. csg. 750 ft.; top blk. sh. 2,280 ft.; comp.; est. 50,000,-000 ft. gas; T.D. 2,354 ft.

Simpson County

Goodwill O. & G. Co. No. 1 Berry, sec. 33-2n-4e. Drlg. gbo. 2,730 ft.
Cleve Love No. 1 N. E. Garner, SE cor. SW NE sec. 1-10n-17w. S.D. 27 ft.; financing.

Yalobusha County

Acme Holding Co. No. 1 S. D. Bovle, NW NW sec. 33-25n-7e. Drlg. 2,250 ft.

FLORIDA

Nassau County

St. Mary River Oil Corp. No. 1 Hillard Turpentine Co., sec. 19-4n-24e. Drlg. 4,525 ft.

Lake County

Union O. & R. Co. No. 1 Gulf Explr., sec. 17-24s-25e. S.D. 235 ft.

Rocky Mountain Runs

Production estimates for week ended August 6:

WYOMING

	Bbls.
Salt Creek	15,650
Big Muddy	1,180
Badger Basin	140
Black Mountain	140
Cole Creek	190
Dallas Derby	350
Dutton Creek	70
Elk Basin	140
Frannie	1,380
Garland	2,860
Grass Creek	1,600
Hidden dome	110
Hudson	340
LaBarge	920
Lance Creek	12,750
Lost Soldier	1,520
Medicine Bow	3,400
Midway	40
Oregon Basin	4,120
Osage	840
Pilot Butte	20
Quealy dome	750
Rock River	1,830
South Casper	480
Spindletop	10
Poison Spider	230
Teapot	20
Warm Springs	140
Wertz	700
Total Wyoming	51,920

MONTANA

Border	70
Cat Creek	590
Cut Bank	7,560
Dry Creek	1,470
Kevin-Sunburst	3,650
Pondera	580
Total Montana	13,920

COLORADO

Florence	230
Fort Collins and Wellington	300
Iles dome	2,230
Moffat	220
Orchard	50
Rangely	100
Tow Creek	110
Price	520
Total Colorado	3,760

NEW MEXICO

Cooper	5,080
Eaves	920
Eunice	25,890
Hardy	2,310
Hobbs	14,580
Jal	1,140
Langlie	4,280
Lynch	590
Lynn	900
Mattix	3,060
Monument	26,870
North Lynch	40
Penrose	5,330
Rhoades	180
Skelly	1,950
South Eunice	3,110
Vacuum	2,780
Artesia-Maljamar	6,650
Getty	300
Hogback	200
Rattlesnake	750
Table Mesa	90
Total New Mexico	107,000
Total Rocky Mountain region	176,600

Home Oil Co. Operations

Home Oil Co. of Vancouver, British Columbia, which some years ago pioneered the first South Turner Valley development in section 20-19-2w5, is again taking an actice part in Alberta drilling. In North Turner Valley the company's Home-Millarville No. 2 test, LSD 6, section 33-20-3w5, drilled by a subsidiary, Home Oil (Alberta) Ltd., was spudded on April 9 and is below 4,729 feet. Drilling started in the Belly River formation, entering the Upper Benton at 1,300 feet and getting the cardium sandstone marker at 3,480 feet. Tests show the hole less than 1 degree off vertical. Newell & Chandler are handling the contract. In the same area Home Oil (Alberta) has a substantial interest in Phillips Royalties No. 1, LSD 16, section 16-20-3w5, now below 7,400 feet after cementing 6⅝-inch casing at 6,960 feet. This test showed the cardium sandstone at 4,830 feet with repetitions at 5,190 and 5,930 feet, followed by the Lower Benton, and entering the Blairmore formation at 6,750 feet.

Another subsidiary, Home Oil (Brazeau) Ltd., is drilling on the Brazeau structure west of Edmonton, in LSD 16, section 7-43-17w5, Home-Brazeau No. 1 is at 4,520 feet, with drilling entirely in the Lower Benton.

Illinois and Kentucky Fields

(Continued from Page 70)

14 new producers, nine were in Clay County, eight being in the Pure Oil Co.'s Clay City pool, four in Richland County pools and one in Wayne County.

Two of the Richland producers were in the growing pool 1 mile northeast of Olney, Raitman's No. 3 O'Donnell flowing an estimated 650 bbls. of oil after acidizing, and the Texas Co. No. 1 Winter having initial flow of 580 bbls. daily, after swabbing both water and oil for several days.

Pure Oil Co.'s new wells in the Clay City area included No. B-2 C. R. Bunn; No. 1 Margaret Bunn; No. 3 N. V. Bunn; No. 4 Moseley; No. 2 J. H. Smith; No. A-1 Sol Smith; No. A-5 Tetrick and No. 1 Ullom. These were reported to be flowing wells. Gulf Oil Corp. No. 1 Pierce, in the new Clay County pool north of Flora, flowed 50 bbls. of oil daily, was acidized and was expected to increase production.

First reports of new operations in Illinois the past week included the following:

In Clinton County, Adams Oil & Gas Co. No. 4 Felton, SE NE NW section 1-1n-1w, New Centralia pool, set surface casing at 61 feet; same company's No. 3 Kaelin, NW SW SE section 12-1n-1w, drilling 269 feet; John F. Ryan No. 1 Brinkman, Lot 5, Block 2, Pullen Subdivision No. 2, section 13-1n-1w, drilling at 300 feet; Shell Petroleum Corp. No. 5 Criley, SE cor. section 35-2n-1w, drilling at 1,100 feet; same operator's No. 2 Hanseman, NE SW SE section 1-1n-1w, cellar and pits; Fish & Haguewood No. 1 well, NE NE SE section 12-1n-1w, Lot 24, Block 1, second H. T. addition, spudded with rotary; Redwing Petroleum Co. No. 1 Kohl, Lot 8, Block 4, second H. T. addition, SE NE SE section 12-1n-1w, location; W. C. McBride, Inc., No. 4 Carson, NW NE SE section 35-2n-1w, location.

In Marion County, Adams Oil & Gas Co. No. 3 Ballance, NW SW SW section 28-4n-1e, Patoka pool, rotary derrick; Illinois-Iowa Power & Light Co. No. 10 fee, Lot 3, Block 59, original townsite, SE NW SW section 18-1n-1e, Centralia area, rotary derrick; Louis C. Simmel No. 1 Lambrecht, Lot 8, Block 37, original townsite, SW SE NW section 18-1n-1w, drilling with rotary below 200 feet; Hawley Oil Corp No. 1 Stratman, Lot 6, Block 86, original townsite, SW cor. section 18-1n-1e, spudded with rotary; Bert Field No. 1 M.&T.R.R., Lot 3, Block 69, original townsite, NE SW SW section 18-1n-1w, drilling below 185 feet; C. F. Frazier No. 1 Groschm, Lot 11, Block 37, original townsite, SW NE SW section 18-1n-1e, coring at 1,365 feet; J. C. Menhall Co. No. 3 I.C.R.R., Block 86, original townsite, NW SE SW section 18-1n-1e, rigging up rotary; Texas Co. No. 1 Richardson, NE cor. section 6-1n-2e, Texaco pool, rigging up rotary; same company's No. 1 Luttrell, NW NE NW section 16-1n-2e, location; I. D. Lain No. 1 Dempsey, SE NE SW section 31-2n-2e, drilling with rotary below 1,375 feet; Texas Co. No. 1 Craig, SE SW SW section 9-1n-2e, location; same company's No. 2 Tate, NE NW NW section 5-1n-2e, drilling at 1,280 feet; Boyce and others No. 1 Foster, NW NW SE section 10-2n-1e, wildcat, drilling with machine below 260 feet; Oil Royalties, Ltd., No. 1 Suggs Meeker, CWL NW NW section 11-2n-1e, wildcat, drilling below 455 feet.

In Fayette County, Wheelas & Whisenant No. 1 Carter, NE NE NW section 14-4n-1e, wildcat, drilling below 300 feet; Kingwood-Duncan No. 3 Yolton, SE SW NW section 7-7n-3e, Loudon pool, moving in rotary tools; Minerva Oil Co. No. 1 Breese, NW NE NE section 20-7n-3e, building rotary rig and moving in tools; Cummings, Sherman & Canary No. 1 Burtschi, NE NE SE section 18-7n-3e, drilling at 400 feet; Angle & Pray No. 1 Ferguson, NW NW NW section 18 7n-3e, drilling with rotary below 1,450 feet; C. F. Steele No. 1 Arnold, NE NW SW section 8-7n-3e, rotary derrick; Canary, Sherman & McClintock No. 1 Sefton, NE cor. section 12-7n-2e, spudded with rotary; W. C. McBride No. 3 Stokes A, NE SW NE section 14-8n-3e, moving in rotary tools; same operator's No. 2 Stokes A, SW SW NE section 14-8n-3e, machine; E. Frank Jones No. 1 Rogers, SE SE SW section 17-8n-3e, rotary derrick; J. P. Babcock and others No. 3 Rhodes, SE NW SE section 27-8n-3e, drilling below 300 feet; Jarvis Brothers No. 2 Mize, NW NE NE section 21-8n-3e, rigging up rotary; Carter Oil Co. No. 6 Wood, SE SW SW section 15-8n-3e, location, rotary; same company's No. 5 Wood, SW SE SW section 15-8n-3e, rotary location; same company's No. 2 Howell, NW SW NW section 15-8n-3e, rotary location; Carter Oil Co. No. 2 Bartimus, NE SE NE section 15-8n-3e, location; same company's No. 1 Lilly, SW SE SW section 14-8n-3e, rotary derrick; same company's No. 1 Larimore, NW NE NE section 14-8n-3e, rotary derrick.

In Clay County, Pure Oil Co. No. 1 Edens A, C S half SW SW section 34-3n-8e, Clay City pool, rigging up rotary.

In Franklin County, Adams Oil & Gas Co. No. 1 Old Ben Coal Co., SW SW NE section 19-5s-2e, wildcat, location for McClosky sand test.

In Washington County, Morris No. 1 Marquard, SE NW SW section 33-1s-5w, wildcat, total depth 130 feet, jarring on tools.

In Richland County, Pure Oil Co. No. 17 Coen, C W half NW SE section 4-3n-9e, Noble pool, rotary derrick; Texas Co. No. 2 Winters, SE SE NE section 27-4n-10e, Olney pool, location; J. W. Wicklund No. 1 Sager, SE NE SE section 22-4n-10e, rotary derrick; Sylvester and others No. 1 Osborn, SW NW SW section 26-4n-10e, moving in rotary tools.

In Wayne County, H. H. Weinert No. 3 Twist, NE cor. section 5-3s-7e, Fairfield pool, clearing location; same operator's No. 3 Morlan, SW SW NE section 33-2s-7e, building rotary rig; same operator's No. 2 Morlan, NE NE NW section 33-2s-7e, location; Pure Oil Co. No. 1 Chafin B, C W half NE NE section 19-2n-8e, wildcat, drilling at 1,864 feet; Duncan Oil Co. No. 1 Ullom, C W half SW NW section 22-2n-8e, wildcat, rotary derrick.

OHIO

LIMA, Ohio, Aug. 8.—In Ohio, Knox County leads in completions for the week. In Howard Township, H. E. Perkins No. 1 Guy C Horn, section 14, made 750,000 feet of gas from the Clinton sand at 2,627 feet. In Jackson Township, Pure Oil Co. No. 2 Elmer Blue, section 10, is an oil well making 75 bbls. the first 24 hours after shot from the Clinton sand at 3,072-83 feet. In Union Township, Ohio Fuel Gas Co. No. 2 Letha Seidle, section 4, is a combination well making 500,000 feet of gas and 50 bbls. of oil the first 24 hours after shot from the Clinton sand at 2,839 feet. Ewing No. 1 C. V. Banbury, section 4, has 1,200 feet of fluid in the hole and is making a small amount of gas from the Clinton at 2,788 feet. Operators plan to shoot this week.

In Athens County, Lodi Township, C. J. Ross and others No. 3 G. P. Ackley, section 19, found the first Cow Run sand dry at 406 feet.

In Lawrence County, Union Township, Pearson & Ray No. 1 A. Stout, section 18, is a gas well gauging 260,000 feet from the shale at a depth of 2,810 feet.

In Licking County, Fallsbury Township, Blue Rock Oil Co. No. 1 Thomas Moran, section 11, made 1½ bbls. of oil the first 24 hours after shot from the Clinton at 2,880-2,935 feet. Operators abandoned the well after testing. In Mary Ann Township, Rutledge & Mosholder No. 2 Minerva Berger, first quarter, is a small gas well in the Berea at 869 feet.

In Lorain County, Carlisle Township, Edson & Son No. 1 Albert Stegman, section 3, was drilled to a depth of 2,380 feet and abandoned. In Grafton Township, Ohio Fuel Gas Co. No. 1 Lehman, Lot 37, made a small amount of gas in the Clinton at 2,525-33 feet, but was abandoned after testing.

In Monroe County, Sunsbury Township, Sunsbury Oil & Gas Co. No. 2 J. T. Skinner, section 9, had a small show of gas and oil in the Injun sand at 1,651-73 feet; it was shot, but did not increase the showing so hole was abandoned.

In Morgan County, Penn Township, Penn Contracting Co. No. 1 T. H. Love, section 17, is a gas well in the second Cow Run sand at a depth of 625 feet.

In Muskingum County, Union Township, Atha Realty Co. No. 2 D. N. Dailey, section 15, pumped 10 bbls. of oil after standing 110 hours from the Oriskany sand at 3,178-93 feet.

In Noble County, Noble Township, McKee Brothers No. 1 V. M. Ralph, section 19, was drilled to 1,427 feet and abandoned.

In Perry County, Coal Township, Preston Oil Co. No. 162 Sunday Creek Coal Co., section 36, made 6 bbls. of oil naturally from the Clinton sand at 3,573 feet. The well will not be shot until proration is lifted.

In Washington County, Liberty Township, Otto Heldman No. 1 J. L. Kitts, section 20, is a small gas well in the Germantown sand at 1,225 feet.

Lima Field

In Seneca County, Clinton Township, Sun Oil Co. No. 1 Tiffin Business College, section 7, is drilling 28 feet in the Trenton at 1,488 feet with no showings as yet. In Liberty Township, West & McPharon No. 1 Milo E. Saul, section 36, has 200 feet of fluid in the hole and a small showing of gas at 28 feet in the Trenton. In Jackson Township, Wicklund Development Co. No. 1 Martin Hammer, section 22, is drilling at 100 feet.

EASTERN KENTUCKY OPERATIONS

ASHLAND, Ky., Aug. 8.—Completions again enter the spotlight in the Eastern Kentucky field this week with six wells entering that classification. Operations in a majority of the districts, however, remain much lighter than in the spring and early summer months.

Martin County activities seem to center around Coldwater Fork with one small completed well reported on Big Crooked. Virginia Oil & Gasoline Co. completed No. 3 W. J. Parks on Big Crooked at a total depth of 1,349 feet. It made 2 bbls. a day before shot. The same firm had a small showing of oil in No. 1 Mary Preece, on Walnut Fork of Coldwater, but termed it a dry hole.

South Penn Oil Co. has completed No. 110 Flahaven Land Co. on Big Sinking in the district of that name in Lee County. It reached a total depth of 712 feet and is making 8 bbls. per day.

Central States Oil Co. reports completion of No. 7 Marion Shoemaker at Zoe, in the Big Sinking district. It reached a total depth of 1,260 feet and has a daily production of 18 bbls.

C. M. Nicholas has completed No. 3 Joe Isom in the Isonville district of Elliott County, producing 5 bbls. a day. The same operator is down 100 feet in No. 1 R. B. Fannin in the same district.

Operator Brand reports that No. 1 Lon Tackett in the Wheelersburg district of Magoffin County is making 6 bbls. daily, and that No. 2, same farm will be started at once.

Other operations in the Eastern Kentucky district follow:

In Lee County, Burnett & Prewitt are down 800 feet in No. 6 Day Timber & Coal Co., in the Heil Creek district.

In Powell County, Wireman Brothers are down 450 feet in No. 5 Albert Stewart, on South Fork in the South Fork district.

In Knott County, Inland Gas Corp. is drilling at the 151-foot level in slate in No. 202 Elizabeth Adams, on Right Fork on Troublesome Creek. Kentucky-West Virginia Gas Co. is rigging up No. 575, Henry S. Slone land, on Caney Fork in Knott County and has rig at location of No. 402, Spencer Slone, Caney Creek in Knott County. This last operation is for deepening purposes.

In Floyd County, Kentucky-West Virginia Gas Co. is plugging No. 571 Noah Jarvis, on Levisa Fork. Same firm is moving to location of No. 574 John and Benjamin Sellards nearby.

In Martin County, Kentucky-West Virginia Gas Co. is drilling on shale at 1,235 feet in No. 5244 C. W. Preece. Same firm is idle at No. 5243 Preece, and drilling at 1,805 feet in No. 5245 on the same land, going on to shale after finding dry hole in Maxon sand.

In Floyd County, Inland Gas Corp. recently completed No. 2 Layne heirs. On August 1 it was making from 100 to 175 bbls. daily but is expected to settle down to 20 or 25 bbls.

U.S.S.R. Black Sea Exports Continue to Drop in June

U.S.S.R. petroleum exports through the Black Sea trade routes continue to drop from month to month and from year to year. During June, U.S.S.R. petroleum shipments passing Istanbul, the only exit from the Black Sea where Russian oil fields are located, totaled 63,530 metric tons. For the same month in 1937 U.S.S.R. shipments totaled 167,465 tons for petroleum. More than 50 per cent of the June exports consisted of gasoline consigned to England, France and Siberia. Gasoline exports totaled 37,061 tons, there were 6,765 tons of lubricating oil and the remainder, or 19,724 tons, fuel oil.

For the first six months of 1938 U.S.S.R. petroleum exports by way of the Black Sea totaled 332,280 tons compared to 969,085 tons for the same six months in 1937. So far this year there have been 148,203 tons of fuel oil exported, 117,847 tons of gasoline, 52,560 tons of lubricating oil and 13,670 tons of kerosene. In the first half of 1937 fuel oil exports by the same route totaled 482,882 tons; gasoline, 258,852 tons; lubricating oil, 116,904 tons, and kerosene, 110,647 tons.

PERSONAL

C. W. NELSON, purchasing agent for Fohs Oil Company, Houston, Tex., has returned to his desk after a business trip to New York.

HOWARD HOOPER, formerly assistant chief scout for Shell Petroleum Corporation at Houston, Tex., has resigned and is now associated with the Phillips Petroleum Company as scout for the Gulf Coast district.

GEORGE L. DUKE, formerly New York City representative for the Pennsylvania Grade Crude Oil Association, has joined the Kendall Refining Company organization and is now stationed at Wellsville, N. Y. M. D. RITCHIE, formerly in Cleveland, has been assigned to association activity in New York from which base he will also cover the Philadelphia and Baltimore area.

L. W. HUNT, consulting geologist and petroleum engineer of Bakersfield, Calif., has returned from two weeks of trout fishing on the Des Chutes River in Oregon.

W. A. BAKER, JR., chief geologist of the Standard Oil Company of New Jersey in Mexico, resigned July 31, 1938. He can be addressed temporarily at P. O. Box 203, Brownsville, Tex.

OLIVER C. FIELD, president of O. C. Field Gasoline Corporation, is yachting in Alaskan waters with his family and friends, and will return to his Los Angeles office early in September.

R. V. WHEELER, D.Sc., F.G.S., F.I.C., professor of fuel technology at the University of Sheffield, England, has been awarded the Melchett Medal of the Institute of Fuel for the current year.

J. E. MOORHEAD, executive secretary, Pennsylvania Grade Crude Oil Association, Oil City, has returned after a week at the summer camp of E. C. BREENE, Oil City producer, at Combermere, Ontario, Canada.

DON O. CHAPELL, geologist, H. S. THOMAS, paleontologist, L. J. HANDY, land man, and JACK DEARDORFF, scout, have been assigned to the Illinois division office of the Transwestern Oil Company which opened headquarters in the Klohr Building, Mattoon, Ill., August 1.

E. H. CUNNINGHAM CRAIG, B.A., F.G.S., consulting petroleum geologist, has returned to London after a three months' visit to Turkey, where he has been carrying out survey work on behalf of the Government Institute of Search and Mineral Investigation, and advising as to the best plan for future oil search.

R. E. HAVENSTRITE, president of California-Western Oil Company, has been at the site of the Iniskin Drilling Company test on Chinitna Bay in Alaska since early in May, but recently made a trip by plane to Ophir in the Alaskan interior where he is interested in a placer gold mine.

B. B. SMITH, a drilling superintendent for Loffland Brothers Drilling Company, of Tulsa, who has been supervising his company's work in the Rio Bravo field of California, has returned to his Mid-Continent headquarters, his work in California having been completed. It is reported that most of the members of the drilling crews taken to California by Mr. Smith have remained in the Rio Bravo field and are now employed by the drilling department of one of the large oil companies.

J. MURRAY WALKER, who has been representing Lane-Wells Company at Santa Barbara, Calif., has been transferred to Calgary, where he will represent the same company in the Dominion of Canada.

E. V. WINTERER, geologist for Superior Oil Company; OWEN LANE, manager of Continental Oil Company land department; and LEE HELM, Bakersfield lease broker, have returned from an eventful fishing trip in the high Sierras. Pack mules were used to get to Palisades Creek at the headwaters of the middle Kings River.

C. A. MORVANT, attorney for the Louisiana Department of Conservation, attended the recent Interstate Oil Compact meeting in Colorado Springs. DON E. FUELLHART, engineer, JACK METZGER, of the Houma district, and WILL BRANAN, editor of the Conservation Review, all associated with the Department of Conservation of the State of Louisiana, left recently on an inspection tour of oil fields in the coastal section of the state.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Now that the Magnolia Petroleum Co. has freed itself from prosecutions by Texas politicos, it will lay an 8-inch pipe line from the Cushing, Okla., field to Electra, Tex., 200 miles distant, which will connect with its main line to the Gulf Coast.

Operators in the Bradford field in Pennsylvania are filling old abandoned wells with fresh water. The pressure of the water on the oil sand forces dormant oil into nearby oil wells, greatly increasing production. Bureau of Mines experts regret that there is no way of stopping the practice by federal legislation. The Interior department will forbid it on Indian lands in Oklahoma.

John M. Crawford, president of the Parkersburg Rig and Reel Co., is the proud father of a boy, born August 6.

20 YEARS AGO

A windstorm in Butler County, Kansas, blew down over 250 derricks and many lease buildings and other structures.

Judge Criswell, in Franklin, Pa., rules that the Alum Rock Gas Company has no right under its contract to extract gasoline from gas before delivering it to the United Natural Gas Co. The contract was made in 1909 when neither company considered the possibility of gasoline extraction.

10 YEARS AGO

Over five billion barrels of crude oil has been produced in the United States in 28 fields covering a combined acreage only a little greater than that of the combined acreage of the cities of Los Angeles and Chicago.

A Wilcox sand pool is opened 8 miles north of the city of Wichita by the Marland and Bu-Vi-Bar companies' joint operation. The well started at 75 barrels per hour.

Clarence A. Leeper, prominent Kentucky oil operator dies in a Milwaukee, Wis., hospital. He had operated in many fields in his 40 years of experience.

GEORGE W. STRAKE, president of Strake Petroleum, Inc., Houston, Tex., is on a tour of California, with his family.

L. L. HORNE, president of Horne Oil Company of Dallas, Tex., was in Los Angeles recently and has since returned home.

JAMES H. HERSHEY, president of Crown Petroleum Corporation, is in Mattoon, Ill., looking over company properties.

J. G. HAMMOND, president, and ROBERT CRAIG, secretary, Hammond Oil Company, Fort Worth, Tex., were business visitors in New York last week.

W. R. WARDNER, JR., assistant oil umpire of California, has returned from a vacation spent on Santa Catalina Island with MRS. WARDNER and their family.

H. R. STROUBE of Corsicana, Tex., is spending a vacation in Beverly Hills, Calif., but has attended the races at Del Mar several times, commuting from Los Angeles.

E. L. WILSON, vice president of Maracaibo Exploration Corporation of Dallas, Tex., accompanied by MRS. WILSON, are spending a vacation in Connecticut.

MAX THORNBURG, vice president of California Texas Oil Company, New York, returned to this country last week after spending several months in Bahrein and London.

IRA McFARLAND, comptroller for Texas Company at Houston, Tex., sailed from New York last week for a vacation trip to Europe. While in Europe Mr. McFarland will visit the company's offices. He was accompanied by MRS. McFARLAND.

PARAGRAPHS

LIEUT. H. D. EASTON, JR., geologist of Shreveport, is participating in the Third Army maneuvers in Mississippi.

CLAUD B. BARRETT has been appointed southern sales manager for the marketing division of Texas Company. Mr. Barrett has been for the past three years sales manager for the Houston district. He succeeds J. S. LEACH who recently was named a vice president of the company.

N. C. McGOWEN, president of the American Gas Association and president of United Gas Corporation at Shreveport, La., will leave his office early in September to attend the convention of the Pacific Coast Gas Association to be held at Santa Barbara, Calif., September 14 to 16. Mr. McGowen, who will be the featured speaker at the convention, will be accompanied by HOLLY POE, secretary of the Natural Gas Department of the A.G.A., who will leave his Dallas, Tex., headquarters to deliver an address at the Pacific Coast convention.

PAUL BENEDUM of Benedum & Trees, located at Houston, left last week for a trip to Pittsburgh and other eastern cities.

JACK SHIELDS, rig-builder and excavating contractor, recently flew an army pursuit plane from Bakersfield to Nevada and back accompanied by MAJOR W. K. BURGESS of the United States army. Mr. Shields is a captain in the reserve aviation corps.

J. R. (JACK) GIGNOUX, formerly manager of Shell Oil Company construction department in California who was recently called to Texas to supervise construction of a water-disposal system and other special assignments for Shell Petroleum Corporation, is on vacation at Bridgeport in northern California with his family.

ROBERT HUME, production superintendent for Wood-Callahan Oil Company at Mountain View, Calif., was severely injured in a gas explosion in the cellar of a well in the Edison field last week, and may be forced to remain in the hospital for a month or more. Three members of Mr. Hume's crew were also injured, but all have been dismissed from the hospital.

J. E. J. TAYLOR, an executive of the Societe Generale des Huiles de Petrole and its subsidiaries since inception of that company in France in 1921, has been transferred from Paris to the Anglo-Iranian Oil Company administrative staff at London. On his departure from Paris, Mr. Taylor was honored at a dinner tendered by Sir Edgar Bonnet, president of the company, and was presented with an eighteenth-century clock by associates.

WILLIAM R. DAVIS, director of Crusader Petroleum Industries, Ltd., has returned to New York from London.

E. J. DOLEY, president of Doley Oil Company of Philadelphia, Pa., has been checking holdings in Ellis and Rooks counties, Kansas.

W. L. STEWART, independent operator from Fort Worth, Tex., and MRS. STEWART, are spending several weeks vacationing in Canada.

E. T. MONSOUR, chief paleontologist of the Standard Oil Company of New Jersey in Mexico, resigned July 31, 1938. He can be addressed at 1769 Lakeshore Drive, Shreveport, La.

ROBERT B. BOSSLER, production engineer, Brundred Oil Corporation, Oil City, Pa., and MRS. BOSSLER have returned home after spending 10 days at Lake Penage, Ontario, Canada.

H. D. BROWN, formerly secretary of the Brundred Oil Corporation, Oil City, was elected vice president of the company at a recent annual meeting. H. D. BROWN, JR., was elected to the directorate of the corporation at the same time.

OREL P. KEENEY, sales manager, Wolverine-Empire Refining Company, was elected chairman of the Venango County division of the Associated Petroleum Industries of Pennsylvania at a meeting in Oil City August 4.

J. A. BROWN, president of Socony-Vacuum Oil Company, has been spending the past month in Southern California. Although on vacation he frequently spends several days at the headquarters of General Petroleum Corporation in the Higgins Building in Los Angeles.

Likes a Little Farming

If John L. Essley, president of the Superior Oil Corporation, Tulsa, were not an oil man he doubtless would have been a farmer. He's something of a farmer anyway, for as a side line he operates two farms—and they say he does it without government relief too. Mr. Essley was born in 1892 in Glidden, Iowa, an agricultural community. He was seven years old when the family moved to Claremore, Okla. Two years later the Essleys established a home in Tulsa. Soon after graduating from high school in 1908 young John got a job teaming in the Cushing oil field, Oklahoma. If any romance was lurking around Cushing at that period little fell under his eye, and he decided to be a farmer. So in 1915 he acquired some land near Avant, Okla. But the lure of oil was stronger within him than he realized, and in 1915 he moved to Tulsa, bought some leases in the Osage region and soon had production. For the next 13 years he was a busy independent producer, besides trading in royalties and leases. But farming continued to be an avocation.

J. L. ESSLEY

In 1922 Mr. Essley acquired stock in the Superior Oil Corporation as an investment. In 1933 he became vice president. The next year he was chosen president of that organization and of its subsidiary, the Superior Oil & Gas Company. Mr. Essley is active in the American Petroleum Association, the Independent Petroleum Association of America, and the Mid-Continent Oil and Gas Association.

W. H. BERG, president of Standard Oil Company of California, attended the annual picnic of the company's reunion at Santa Anita Playground and has returned to San Francisco.

D. B. WINES, geologist for Tide Water Associated Oil Company formerly stationed in Wichita, Kans., has been transferred to the Mattoon, Ill., division office of the organization.

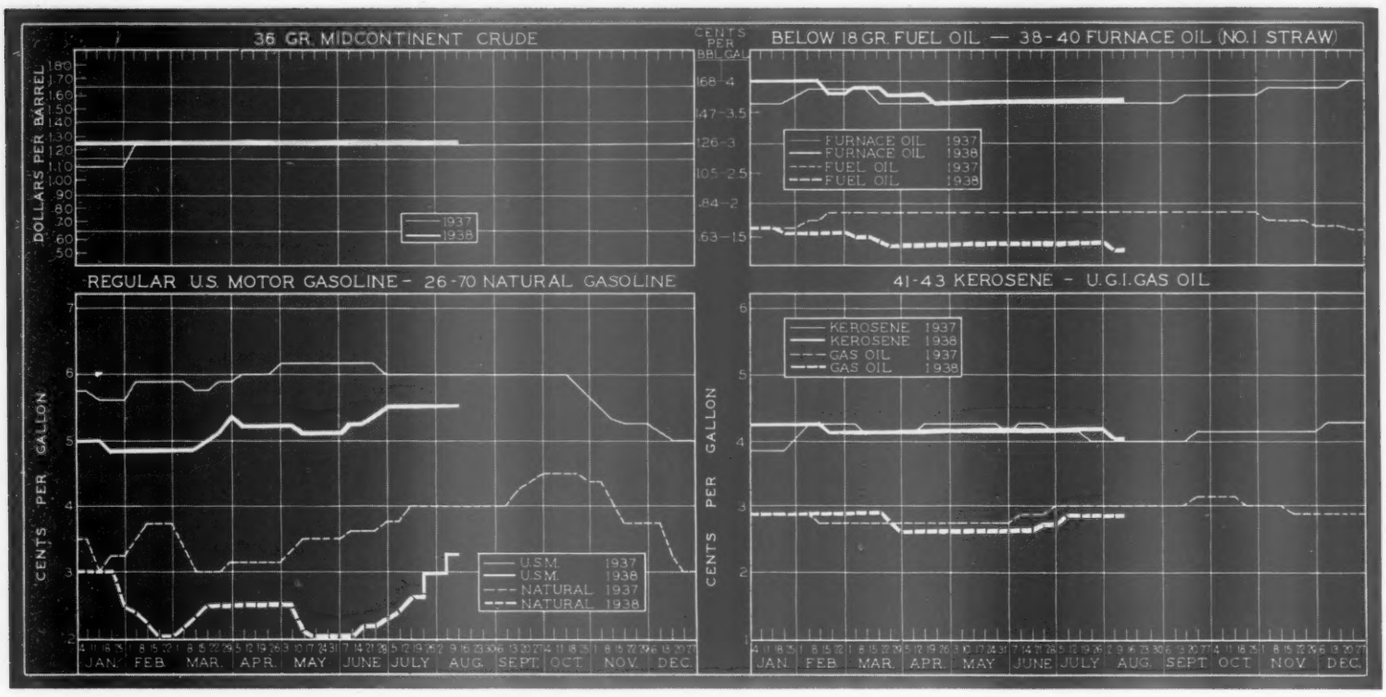
JESSE L. BULLARD, scout for the past 12 years for Shell Petroleum Corporation on the Gulf Coast and the Illinois division, resigned August 1. Mr. Bullard will continue to live in Centralia, Ill.

GEORGE VANDAVEER, Jr., former petroleum engineer for E. H. Moore, Inc., has been made petroleum engineer of the tri-state division of Phillips Petroleum Company with headquarters at Shreveport, La.

W. J. BRUNDRED, president of the Brundred Oil Corporation, Oil City, Pa., has been named a member of the American Petroleum Institute committee on drilling and production practice, representing the eastern division.

WILLIAM W. BRUCE, vice president and director of Continental Oil Company, accompanied by MRS. BRUCE, is spending a vacation in Southern California and will be back at his headquarters at Ponca City, Okla., within the next 10 days.

R. D. SWAN, assistant general superintendent of the Texas Company's Lockport, Ill., refinery, resigned from service July 15. Mr. Swan has been with the Texas Company for the past 13½ years, previously being located at the Texas Company's Dallas, Tex., and Pryse, Ky., refineries as assistant superintendent.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Prices Mark Time as Trade Awaits Standard's Tank-Wagon Action

Gasoline tankcar markets in the Mid-Continent marked time as buyers and sellers awaited final developments in the effort to advance tank-wagon prices throughout the Middle West. The move toward higher prices was inaugurated August 3 by Shell Petroleum Corp. which advanced consumer tank-wagon and posted tank-wagon prices .3 cent per gallon effective in Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri and Kansas.

A large majority of the major and semi-major oil companies marketing in the same territory met the Shell advance within 24 hours. The important exception was the Standard Oil Co. of Indiana, largest marketer in the states affected, which up to this writing (Tuesday) had not indicated what action if any it would take. On the sidelines also were a large number of independent jobbers and dealers who over the years have been accustomed to move their tank-wagon and station prices up and down with the Standard's changes. This group included jobbers who purchase all of their supplies from companies which in their own jobbing and dealer operations had advanced their tank-wagon quotations .3 cent on all grades of gasoline.

The justification for the higher prices as explained by the Shell and other companies lies in the desire to bring about a better correlation of crude oil and gasoline tankcar, tank-wagon and service station prices. It is maintained that the higher prices are more in line with costs including crude oil, refinery and transportation operations.

It is pointed out that in many cases refiners in their plant sales have not been benefited by the advances in spot tankcar sales which materialized in the Mid-Continent and Middle West during late May and June. This situation was brought about by contracts with jobbers and dealers which guarantee these wholesalers and retailers minimum margins to carry on their operations. In these cases the contract prices before the .3 cent advance was announced were below the spot market which resulted in buyers taking advantage of the guaranteed margins and buying from one-fourth cent or more per gallon under the published spot market quotations.

In other cases where this situation does not apply there is a desire to widen the margin allowed the jobber or dealer or both. It is maintained that regardless of contracts and open tankcar markets, wider margins should be allowed for tank-wagon and service station operations. The maximum margin now generally allowed is 5½ cents of which the jobber is supposed to retain 2 cents and the station operator 3½ cents in the sale of the regular branded grade of gasoline. Other areas are pointed to where the differentials are wider.

It is predicted by most observers that the effort to obtain the higher price levels will fail unless the Standard of Indiana, which is the largest marketer, takes similar action.

Refined Oil Market Barometer

Reports from several areas indicate that August consumption of gasoline may be approximately the same as in July and slightly less than in August last year. This situation is offered in explanation of the fact that refinery tankcar prices at best are only holding their own. No general changes in other products.

MID-CONTINENT. Natural gasolines advance one-fourth cent. Refinery gasolines steady as buyers and sellers await final action on tank-wagon advances. Gas oils strong.

EAST COAST. Price-cutting in retail and tank-wagon sales unsettles tankcar markets. Good demand for distillates.

GULF COAST. Minor price concessions reported in gasoline sales. Export market less active.

CALIFORNIA. Fuel oil very weak with some shading of prices. Good movement of gasolines.

PENNSYLVANIA. Bright stocks and neutral oils generally stronger. Gasolines freely offered.

CHICAGO. Improved demand for distillates. Kerosene weak. Gasoline prices firm.

Naturals Advance

Natural gasolines are stronger and the 26-70 grade moved up to a low of 3¼ cents Tuesday in Oklahoma and Texas. Jobber buying of naturals has improved recently. This buying and the contracts of the larger refiners are absorbing current output. As refiners prepare to clean up on the balance of their refinery surplus storage over the next month or six weeks it is anticipated that their purchases of natural gasoline will increase and prices will show further advances.

Buying of furnace oils, tractor fuels and other distillates is steady but there has been no disposition to advance prices. U.G.I. gas oil is scarce in the Mid-Continent and strong at the prevailing prices. While there are no large quantities of residual fuel oil available in Oklahoma and adjoining areas buying is slow and there has been some shading of prices in the low-gravity grades.

Manufacturers are hopeful that the recent improvement shown in the Pennsylvania Grade bright stocks and neutral oils will spread to the western oils. There continue to be inquiries and sales for wax for delivery over the balance of the year and the market is strong.

Eastern Tank Car Gasoline Price Holds Despite Unsettlement

By H. STANLEY NORMAN

NEW YORK, Aug. 9.—An effort to salvage something from the fading summer gasoline market in metropolitan New York was launched last week by Socony-Vacuum Oil Co., Inc., and followed by Colonial Beacon Oil Co. The two companies placed dealers in Manhattan, Queens, Bronx and Brooklyn under fair trade act contracts. For more than a month the metropolitan retail gasoline market has been in distress with prices for "regular" motor fuel dipping to 7 gallons for $1.05. Socony-Vacuum's announcement that it would establish minimum resale prices for its branded motor fuel in the five metropolitan boroughs was labeled frankly as an experiment.

Unlike fair trade acts in New Jersey, Nevada, Utah, Washington and California, New York's Feld-Crawford act does not include provision for "vending machines" in describing commodities specifically protected. The move to place its branded gasoline under protection of the Feld-Crawford act in New York is one of the first instances so far recorded where oil companies have attempted to employ fair trade acts in their marketing operations where "vending machines" are not specifically included.

Other representative marketers in the New York area reserved decision on following Socony-Vacuum in establishment of minimum resale prices for branded fuels. Success of Socony-Vacuum's plan is dependent to a large extent, observers believe, on acceptance of the leadership by competitive marketers and possibly on cooperation of the dealers. There is a division of opinion on the question of whether gasoline can be included in minimum price agreements unless the contracts are accepted by dealers without court review. Colonel Beacon's minimum prices are 17½ cents for regular and 19½ cents for premium.

In announcing the plan, Socony-Vacuum said "this action is taken under the Feld-Crawford Fair Trade Act designed 'to protect trade mark owners, distributors and the public against injurious and uneconomic practices in the distribution of articles of standard quality under a distinguished brand or name.'

"The application of the Feld-Crawford Act to the company's branded gasolines has met with the general approval of its dealers in the four counties. Conditions in these gasoline markets are so chaotic as to jeopardize both the company's trade mark goodwill and the interests of the consumer in the economic and efficient handling of branded gasolines.

"The company regards the invoking of the act in the four counties as an experiment and has reached no decision as to whether it will seek to invoke it also for its branded gasolines in other areas."

It is becoming increasingly evident that the New Jersey statute regulating motor fuel sales and the application of the state's new fair trade act to a majority of retail motor fuel dealers whereby minimum prices are established are pushing "distress" gasoline into New York. At least some of the material which was formerly discharged at New Jersey ports and went into the hands of unbranded dealers is currently diverted to dealers east of the Hudson. This quantity of unbranded gasoline is becoming the same disturbing element in the retail market in New York as it was for months in New Jersey. Therefore, the experiment with minimum price contracts in New York launched by Socony-Vacuum will be watched with intense interest by practically all companies who have seen the metropolitan area market changed from reasonable stability to a matter of cut-throat price slashing in the brief period of two or three months.

In general, the eastern gasoline market regained most of its summer momentum last week following 10 days of uninterrupted rain and threatening weather during the last of July. Motor fuel inventories graphically reflected the effect of the rainy period by climbing nearly 500,000 bbls. for the week ended July 31. Normally, the last week in July would have been one of the banner consuming seven-day periods of the summer with 1,750,000 to 2,000,000 bbls. of motor fuel withdrawn from storage in addition to current production.

Loss of consumption in the last week of July caused oil men to take another look at their hole card. There seems scarcely any possibility now that 1937 gasoline inventories can be equalled by September unless there is an abrupt and sharp contraction of refinery operations for remainder of August. The remaining possibility for reducing 1938 gasoline inventories to levels touched in 1937 is that a mild and extended fall season favorable to motoring will prevail and that refinery operations will be held strictly to the line of indicated requirements.

Disappointing results of July followed unfavorable business in May so far as New York State is concerned. A decrease of 10,116,074 gallons of taxable motor fuel sales in May, as compared with May last year, was reported last week by the State Tax Commission. During the five-month period ending May 31 the total New York State sales of gasoline amounted to 660,952,872 gallons, a decrease of 11,066,457 gallons as during the same period last year. The reduction in taxable gasoline sales was even more pronounced, amounting to 13,848,500 gallons.

There was no change in the tankcar gasoline market in the New York area despite the unsettled condition of retail markets. Motor fuel of 65-octane rating was quoted by practically all sellers at 6¾ to 7 cents per gallon in tankcars with barge deliveries obtainable at an eighth of a cent below those figures. High-octane gasoline was reported sold in some instances at a half cent below the general quotation to tankcar purchasers in Boston and some easiness was reported from Philadelphia. There appears to be no immediate danger, however, of a general break in the tankcar market in the northeast Atlantic Coast district.

Movement of fuel oil stocks north actually started in a mild way the middle of July but will be prosecuted at a faster pace this and next month. Anticipating the tanker demand, boat owners moved their charter rates up about 3 to 5 cents per barrel last week. The last open market charter reported was for a cargo of heavy fuel oil in August at 18 cents per barrel. Prior to the current upward movement, rates were about 15 cents per barrel for loading on the Gulf Coast and delivery north of Cape Hatteras.

It was estimated by one observer familiar with tanker charter conditions that 50 to 60 boats had been tied up by owners during the past 45 days because of inability to operate them on a profitable basis at rates prevailing during that period. Whether the current advance will be sufficient to return the inactive boats to service could not be determined last week, but some reported that owners would wait for at least another comparable advance. Easiness of the boat

(Continued on Page 122)

A. P. I. Weekly Refinery Statistics

Week Ending August 6, 1938

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	486,000	21,152,000	13,239,000
Appalachian	88.4	103,000	3,138,000	1,107,000
Indiana, Illinois, and Kentucky	92.4	437,000	12,302,000	9,216,000
Oklahoma, Kansas and Missouri	84.7	287,000	6,512,000	4,298,000
Inland Texas	56.6	134,000	2,148,000	1,975,000
Texas Gulf	95.7	759,000	9,336,000	12,603,000
Louisiana Gulf	96.6	119,000	2,548,000	3,326,000
North Louisiana and Arkansas	63.7	34,000	515,000	831,000
Rocky Mountains	69.7	39,000	1,486,000	832,000
California	90.9	509,000	12,453,000	94,332,000
Total reported	89.0	2,907,000	71,590,000	141,759,000
Estimated unreported	.....	308,000	3,798,000	2,940,000
*Estimated total	.....	3,215,000	75,380,000	144,699,000
*Estimated total previous week	.....	3,240,000	76,864,000	144,294,000
*August 7, 1937	.....	3,340,000	69,216,000	108,597,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATES)

Week ending July 23, 1938	287,585,000 barrels
Week ending July 9, 1938	289,312,000 barrels
Week ending July 31, 1937	308,666,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 9, 1938

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank-wag.
Chicago, Ill.	15.6	13.6	4.0	10.5
Decatur	15.6	14.1	4.0	10.5
Joliet	15.6	14.1	4.0	10.5
Peoria	15.6	14.1	4.0	10.5
Quincy	15.4	13.9	4.0	10.3
Davenport, Ia.	15.6	14.1	4.0	‡10.5
Des Moines	15.4	13.9	4.0	‡10.3
Mason City	15.8	14.3	4.0	‡10.7
Duluth, Minn.	17.4	15.9	5.0	11.3
Mankato	17.0	15.5	5.0	10.9
Minneapolis	17.0	15.5	5.0	10.9
LaCrosse, Wis.	17.0	15.5	5.0	10.9
Green Bay	17.4	15.9	5.0	10.3
Milwaukee	16.8	15.3	5.0	10.7
Detroit, Mich.	14.3	12.8	4.0	9.0
Grand Rapids	14.8	13.8	4.0	9
Saginaw	16.3	14.8	4.0	9.3
Evansville, Ind.	17.1	15.6	5.0	†11.0
Indianapolis	17.3	15.8	5.0	†11.2
South Bend	17.6	16.1	5.0	†9.0
Fargo, N. Dak.	17.2	15.7	4.0	12.1
Minot	18.5	17.0	4.0	13.4
Huron, S. Dak.	17.5	16.0	5.0	11.4
Kans. City, Mo.*	14.9	13.4	4.0	8.5
St. Louis*	15.2	13.7	4.0	10.1
St. Joseph*	14.9	13.4	4.0	9.8
Wichita, Kans.	14.4	10.6	4.0	7.8

***State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.**

Exclusive of state general sales taxes. Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective August 1, 1938, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8.5 cents; 150 gallons and over, 8 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex furnace oil, 1-149 gallons, 8 cents; 150-399 gallons, 7 cents; 400 gallons and over, 6.5 cents. Stanolex grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex grade B, 1-799 gallons, 5 cents; 800 gallons and over, 4 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
Atl'tic City, N. J.	13.4	11.4	4.0	8.0
Newark	13.4	11.4	4.0	8.0
Annapolis, Md.	14.85	13.35	5.0	9.5
Baltimore	14.25	12.75	5.0	9.0
Cumberland	16.65	14.15	5.0	10.0
Wash'g'n, D. C.	12.5	11.0	3.0	9.5
Danville, Va.	16.95	14.45	6.0	12.9
Norfolk	15.75	13.25	6.0	11.5
Petersburg	16.05	13.55	6.0	11.7
Richmond	16.05	13.55	6.0	11.7
Roanoke	17.25	14.75	6.0	12.9
Charles'n, W. V.	17.05	14.55	6.0	12.6
Parkersburg	15.35	13.85	6.0	11.2
Wheeling	16.25	14.85	6.0	12.2
Charlotte, N. C.	18.65	16.15	7.0	12.1
Hickory	19.15	16.65	7.0	12.5
Mt Airy	18.95	16.45	7.0	12.3
Raleigh	18.25	15.75	7.0	11.6
Salisbury	18.75	16.25	7.0	12.2
Charleston, S. C.	17.25	14.75	7.0	10.6
Columbia	18.25	15.75	7.0	11.6
Spartanburg	18.95	16.45	7.0	12.4

Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective May 15, 1937, in North and South Carolina, West Virginia and Virginia (except Arlington and Fairfax counties): Commercial consumers taking deliveries of 50 gallons (W. Va., 100 gallons) or more at one time will be billed at posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons (W. Va., 100 gallons) will be billed at 4 cents per gallon over posted consumer tank-wagon price. Generally the posted consumer tank-wagon price will be the equivalent to the dealer price less .5 cent per gallon.

Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline			Kero.
	Tank-wag.	Net dlr.	Inc. tax	tank-wag
Atlanta, Ga.	19.0	16.0	7.0	12.0
Augusta	19.5	16.5	7.0	11.5
Macon	21.0	18.5	7.0	12.0
Savannah	20.0	17.0	7.0	12.0
Birm'ham, Ala.	21.5	18.5	8.0	12.0
Mobile	22.0	19.0	9.0	9.5
Montgomery	21.5	19.5	9.0	13.0
Jackson, Miss.	19.5	16.5	7.0	10.0
Vicksburg	20.0	17.0	7.0	10.0
Jacks'ville, Fla.	20.5	17.5	8.0	8.0
Miami	21.0	18.0	8.0	11.0
Pensacola	20.5	17.5	9.0	12.0
Tampa	19.0	16.0	8.0	10.5
Lexington, Ky.	19.5	16.5	6.0	10.5
Covington	18.0	15.0	6.0	10.5
Louisville	19.0	16.0	6.0	10.0
Paducah	16.5	13.5	6.0	10.0

***Includes 1-cent state tax.**

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Effective June 4, 1938, 2 cents per gallon discount eliminated from all kerosene markets in Mississippi, Alabama, Georgia, and Florida, markets being reduced correspondingly to a net basis.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham Ala., has a city gasoline tax of 1 cent per gallon; Pensacola has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Dealer	Inc. tax	tank-wag
Denver, Colo.	15.5	5.0	11.5
Grand Junction	19.0	5.0	15.0
Pueblo	16.5	5.0	10.5
Casper, Wyo.	17.0	5.0	11.5
Cheyenne	13.0	5.0	13.0
Butte, Mont.	19.5	6.0	15.5
Billings	19.5	6.0	13.0
Helena	20.0	6.0	15.5
Great Falls	19.0	6.0	15.5
Salt Lake City, Utah	18.0	5.0	16.0
Twin Falls, Ida.	21.0	6.0	18.0
Boise	21.5	6.0	18.0
Albuquerque, N. M.	17.5	*6.5	12.0

***Includes city tax of one-half cent.**

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank-wag. con'r.	Divided dlr.	Inc. tax	tank-wag.
Ohio points	16.5	15.5	5.0	*13.0

***Includes state tax of 1 cent.**

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero
	Tank-wag.	Tank-car	Inc. tax	tank wag.
Albany, N. Y	14.5	12.5	5.0	9.0
*Met. N. Y.:				
M'htt'n, Br'nx	14.0	12.5	5.0	8.75
Staten Island	14.0	12.5	5.0	8.75
Q'ns & Bklyn.	14.0	12.5	5.0	8.75
Buffalo	14.5	13.4	5.0	7.5
Rochester	15.3	13.5	5.0	8.5
Syracuse	14.5	13.1	5.0	9.0
Boston, Mass.	13.0	12.0	4.0	8.5
Portland, Me.	15.0	13.0	5.0	8.75
Manch'ter, N.H.	15.0	13.6	5.0	9.0
Burlington, Vt.	15.4	13.4	5.0	9.5

***Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.**

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 15, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point; monthly purchases under 5,000 gallons, pay divided dealer tank-wagon prices at delivery point.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	21.5	22.5	6.0	*17.5
Reno, Nav.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	13.5
Spokane	23.0	24.0	6.0	16.5
Tacoma	20.0	21.0	6.0	13.5

***Includes 5-cent state tax.**

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank-wag.
Omaha	18.0	16.5	6.0	10.8
McCook	17.5	16.5	6.0	10.0
Norfolk	18.4	16.9	6.0	11.2
North Platte	18.4	15.4	6.0	11.0
Scotts Bluff	19.5	15.0	6.0	12.3

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank-wag.
N. Oleans, La.	19.75	17.25	*10.0	†12.0
Baton Rouge	17.75	15.25	8.0	12.0
Alexandria	17.75	15.25	8.0	10.5
Lafayette	18.0	15.5	8.0	12.5
Lake Charles	17.75	15.25	8.0	12.5
Shreveport	16.5	14.0	8.0	9.5
Kn'ville, Tenn.	21.0	18.5	8.0	14.0
Memphis	19.0	16.5	8.0	12.0
Chattanooga	20.5	18.0	8.0	13.5
Nashville	20.0	17.5	8.0	10.5
Bristol	21.25	18.75	8.0	14.5

***Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax**

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one delivery takes posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon.

Louisiana kerosene prices include 1-cent state tax.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline			Kero
	Tank-wag. dlr.	Tank-car con'r.	Inc. tax	tank. wag.
Philadelphia, Pa.	13.75	12.25	5.0	10.0
Pittsburgh	15.0	13.0	5.0	10.5
Allentown	14.25	12.75	5.0	10.5
Erie	14.5	13.0	5.0	10.0
Scranton	14.5	13.0	5.0	10.5
Altoona	15.0	13.0	5.0	10.5
Dover, Del.	13.5	....	5.0	10.5
Wilmington	12.5	....	5.0	9.75
Springf'd, Mass.	13.5	....	4.0	8.0
Worcester	13.0	....	4.0	8.5
Hartford, Conn	13.6	....	4.0	7.0
New Haven	13.5	....	4.0	7.0
Providence, R. I.	13.0	....	4.0	8.0

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers in Pennsylvania and Delaware, effective March 11, 1937: Consumers under contract using 100,000 gallons or more per year full compartment hose deliveries, tankcar plus .5 cent. Consumers under contract using less than 100,000 gallons per year compartment hose deliveries, undivided dealer price. Consumers under contract less than full compartment delivery, consumers not under contract, less than full compartment delivery, and consumers not under contract full compartment delivery, divided dealer price. Less than 25 gallons, tank-wagon delivery, 4 cents per gallon above undivided dealer price.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Dealer	Inc. tax	tank-wag.
Muskogee, Okla.	14.5	5.0	7.0
Oklahoma City	13.5	5.0	7.0
Tulsa	12.0	5.0	7.0
Ft. Smith, Ark.	14.75	5.0	7.5
Little Rock	17.25	7.5	8.0
Texarkana	14.0	5.0	8.0

Texas

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax	tank-wag.
Dallas, Tex.	14.0	18.0	5.0	8.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.5	19.0	5.0	8.0
San Antonio	13.5	17.5	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

***Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.**

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero tank wag.
Halifax, N. S.	24.5	10.0	18.5
St. John, N. B.	24.5	10.0	18.5
Montreal, Que.	21.0	6.0	17.5
Toronto, Ont.	22.0	6.0	17.0
Hamilton, Ont.	22.0	6.0	17.0
Winnipeg, Man.	27.5	7.0	20.7
Brandon, Man.	28.1	7.0	22.3
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	26.5	7.0	21.F
Calgary, Alta	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

***Imperial gallon used in Canada.**

Divided dealers pay tank-wagon price Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Indiana), effective July 13, reduced kerosene tank-wagon price to 10.3 cents at Green Bay, Wis.; effective July 15 it reduced kerosene tank-wagon price to 9 cents at South Bend, Ind.; effective June 3 it reduced kerosene tank-wagon price to 8.5 cents at Kansas City, Mo.

Continental Oil Co., effective August 5, reduced house-brand gasoline tank-wagon prices 2 cents in Tulsa County, Oklahoma, with a 1-cent reduction in third-grade gasoline.

Standard Oil Co. of Nebraska, effective August 5, reduced dealer price on Red Crown gasoline at Scottsbluff, Neb., .6 cent per gallon.

Bulletin Notice

The first of a series of 10 Geological Survey Bulletins on the Subsurface Geology and Oil and Gas Resources of Osage County, Oklahoma, has been issued by U. S. Geological Survey as Bulletin 900-A. There are two more bulletins of this type in process of publication and others will follow as rapidly as the manuscript can be prepared. Bulletin 900-A covers Townships 22 and 23 North, Ranges 10 and 11 East and was prepared by N. W. Bass, L. E. Kennedy, W. D. Dillard, Otto Leatherock and J. H. Hengst. Copies may be secured for 30 cents each from the Superintendent of Documents, Washington, D. C.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of August 9, 1938

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 oct. and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 oct. and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
64-66 375	.04⅞	.05
68-70 360	.05⅛	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400	.04¾	.04⅞
64-66 375	.04⅞	.05

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below		.04¾
63-66 octane		.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)		.05¾

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below		.05
67-69 octane		.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 octane and below	.04¾	.04⅞
63-66 octane	.05	.05⅛
67-69 octane	.05¼	.05⅜
70-72 octane (regular)	.05½	.05⅝
64-66 375	.04¾	.05
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.05	.05⅛
65 octane	.07	.07¼
68-70 octane	.07½	.07¾

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08¼
58-60 400, 65 oct. and higher	.08	.09

EAST COAST (domestic)—

U. S. Motor, 60-64.9 octane:		
New York (Bayonne)	.06½	.06½
Philadelphia	.06¾	.06½
Boston	.06½	.06¾
Baltimore	.06½	.06¾
Charleston, S. C.	.07	.07¼
U. S. Motor, 65 and above:		
*New York (Bayonne)	.06¾	.07
Philadelphia	.06¾	.07
Boston	.06¾	.07
Baltimore	.06¾	.07¼
Charleston, S. C.	.07¼	.07½

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05	.05⅛
60-64.9	.05⅛	.05¼
65 octane and higher	.05⅜	.05½
68-70	.05¾	.06

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.05	.05⅛

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.03¼
Grade 18-55	.03⅝	.03¾

NORTH TEXAS—

Grade 26-70		.03¼
Grade 18-55	.03⅝	.03¾

CALIFORNIA—

75-85 375-390	.06¼	.07

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70		.03⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04	.04¼
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.04¼	.04½
46-48 gr., 210-230 i.b.p., 480 max., e.p.	.04⅝	.04⅞

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04	.04⅛
42-44	.04¼	.04⅜

NORTH TEXAS—

41-43	.04	.04⅛

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.04⅛	.04⅜

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04⅝

PENNSYLVANIA (inland refineries)—

45		.05
46		.05⅛
47		.05¼

CHICAGO (Based on Group 3)—

41-43	.04⅛	.04⅜
42-44	.04⅜	.04⅝

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.05	.06

NEW YORK (Bayonne, N. J.)—

41-43	.04⅝	.04¾

***GULF COAST (domestic)—**

41-43	.03⅞	.04

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅜	.03½
No. 3 zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅞	.04
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03¼	.03½

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03⅝

CHICAGO (Based on Group 3)—

Range oil	.03⅞	.04⅛
No. 1 prime white, 38-40	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03¼	.03½
No. 3, zero to 15, 28-32	.03¼	.03⅜
No. 3, 15 and above, 28-32	.02⅞	.03

NEW YORK (Bayonne, N. J.)—

*No. 1	.04½	.04⅝
*No. 2		.04
*No. 1		.04

*Barge deliveries one-eighth to one-fourth cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.90
No. 5, low cold test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH TEXAS—

U.G.I. gas oil	.02⅞	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 5, low cold test, 18-22	.70	.75
Below 18 fuel oil, industrial	.50	.60

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial		.80

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.03
No. 4, low cold test, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low cold test, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low cold test, 16-10	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.03⅝	.03⅞

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.20	1.40
24 plus diesel, per bbl.	1.10	1.40
24 plus diesel (bunkers)	1.25	1.55
12-16 (bunkers at tidewater)	.80	.90
10-16 (cargo lots)	.65	.85
12-17 (tankcars)	.60	.90
10-17 (high sulfur)	.55	.85
San Joaquin Valley:		
10-18 (tankcars)	.60	.80
24 plus diesel, per bbl.	1.20	1.50
San Francisco:		
24 plus diesel, per bbl.	1.45	1.55
24 plus diesel (bunkers)	1.50	1.55
10-16 (bunkers)		.95

GULF COAST—

No. 2 fuel		.03½
43-47 diesel		.03½
48-52 diesel	.03½	.03⅝
53-57 diesel	.03⅝	.03¾
Bunkers (bulk cargoes)	.62½	.70
Bunker C (bunkers)		.75

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 diesel (lighterage 6¼c per bbl.)		1.75
28-30 diesel (tankers)	.04¼	.04½
Bunker C (to ocean-going ships in N. Y. harbor)		.95
Industrial fuel (tankcars)	.03¾	.04

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05½

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour test	.15½	.16
15 pour test	.14½	.15
20 pour test	.13½	.14
25 pour test	.13½	.14
Steam refined:		
600	.08	.08½
650	.10	.10½
600 Pennsylvania flash	.10½	.11
630 flash	.13½	.14
600 Warren E filtered	.12½	.13

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 Cold Test:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale Oils:		
200-3	.07	.07¼
300-3	.07½	.07¾
500-3½	.08¼	.08¾
750-3½	.08⅝	.09¼
1,200-3½	.09½	.09¾
1,500-4	.09¾	.10
Red Oils:		
200-5-6	.07¼	.07½
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale Oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° color, 400-405 flash:		
Zero pour test	.14½	.15
10 pour test	.13½	.14
15 pour test	.13	.13½
25 pour test	.12	.12½
180 vis. at 70° F., 3 color:		
25 pour test	.13	.13½
200 vis. at 70° F., 3 color:		
Zero pour test	.15	.15½
10 pour test	.14	.14½
15 pour test	.13½	.14
25 pour test	.12½	.13

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02¼	.02½

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0220	.0225

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0420
125-127 (a.m.p.) wax		.0435
128-130 (a.m.p.) wax		.0445
130-132 (a.m.p.) wax		.0455
133-135 (a.m.p.) wax		.0500
135-137 (a.m.p.) wax		.0515
124-126 (a.m.p.) w.s.		.0185
124-126 (a.m.p.) y.s.		.0185
Petrolatum in barrels, carload lots:		
Dark green	.02	.02¼
Amber	.02⅜	.02½
Extra amber	.02⅝	.02¾
Lily white	.05¼	.05½
Snow white	.06¼	.06½
Cream	.04¼	.04½

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05
60-62 400	.05	.05⅛
61-63 390	.05⅛	.05¼
64-66 375		.05½

LOS ANGELES—

U. S. Motor grades:		
55-65 octane		.05
65-69 octane		.05¼
Above 69 octane		.05½

KEROSENE

GULF COAST—

41-43 prime white	.03⅞	.04
41-43 water white	.03⅞	.04

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S.R.	.20½	.21
Bright Stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-126 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0456
Crude Scale:		
124-126 w.s.	.0185	.0200
124-126 v.s.	.0185	.0200

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

(Effective January 28, 1937)

East Texas (May 22, 1937)*	$1.35
Van, Tex.†	1.10
Camp Hill, Tex.	1.27
Cass County, Tex.‡	1.25
Talco	.73
Altus and Tipton, Okla.§	1.20
Other fields (see gravity table).	

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

North Louisiana and Arkansas

Smackover, all grades	$ .90
Tullos and Urania	1.02
El Dorado East field	.90
Union County, Ark.	.90
Ouachita County, Ark.	.90
Lisbon, La. (Dec. 13, 1937)*	.98

*Caddo Crude Oil Purchasing Co.

Gulf Coast

(Effective January 28, 1937)

Choctaw and Darrow, La. See note below	
Clay Creek, Tex.	$1.00
Garden Island, La.	1.37
Cleveland, Tex.	1.27
Hardin, Tex.	1.15
Lafitte, La.	1.24
Livingston, Tex.	1.27
Welsh, La.	.98
Tepetate (La.) (Jan. 28, 1937)	1.24

Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36. Effective October 1, 1937, Stanolind Oil & Gas Co. in Evangeline, La., pays 92 cents for below 20 gravity, adding 2 cents for each degree upward to 40 and over, at $1.34.

Rocky Mountain States

(Effective January 28, 1937)

Iles, Colo., light*	$1.18
Iles, Colo., heavy*	1.12
Greybull, Wyo.*	1.30
Torchlight, Wyo.*	1.30
Grass Creek, Wyo., light (July 8, 1938)*†	1.05
Grass Creek, Wyo., heavy (May 1, 1938)*	.50
Hamilton Dome, Wyo. (May 1, 1938)*	.45
Elk Basin, Wyo., light (July 8, 1938)*†	1.05
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (May 1, 1938)*	.65
Hogback, N. M. (Jan. 28, 1937)*	1.33
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†‡	1.23
Rock Creek, Wyo.†	1.20½
Lea County, N. M. (see West Texas gravity table).	
Artesia, N. M. (Jan. 2, 1937)‡	.90
Maljamar, N. M. (Jan. 28,1937)‡	.90
Canon City and Florence, Colo.	1.10
Lance Creek, Wyo.*	.97
Lander, Wyo. (Jan. 1, 1938)‡	.51½
Sunburst, Mont. (Nov. 16, 1937)†	.90
Cat Creek, Mont. (Jan. 1, 1938)‡	$1.30
Garland, Wyo. (Jan. 1, 1937)†	.50

*Stanolind Oil & Gas Co. and Ohio Oil Co. †Ohio Oil Co. ‡Continental Oil Co., Texas Co. (April 1, 1938). §Hudson Oil Co.

Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

Lima	$1.00
Centralia, Ill. (Aug. 8, 1938)‡	$1.10 to $1.25
Illinois	1.35
Princeton, Ind.	1.35
Midland, Mich. (Jan. 5, 1938)*	1.12
West Branch, Mich. (Aug. 9, 1938)†	.90
Buckeye (Jan. 8, 1938)	1.09½
Arenac, Mich. (Dec. 29, 1937)†	.80
Freeman-Redding (Mich.)	1.09½
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (July 1, 1938)	1.32
Kentucky River (July 1, 1939)	1.40
Western Kentucky (June 22, 1938)	1.30

*Posted by Pure Oil Co.

†McClanahan P. L. and Simrall.
‡Posted by Owensboro Oil Corp. (Standard of Ohio).

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Buckeye posted by Simrall Corp. and Pure Oil Co.

West Texas

See gravity table.

Pecos County*	$ .91
Pecos shallow†	.81

*Shell Petroleum Corp., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Eastern States

TIDE WATER ASSOCIATED OIL CO. and NEW YORK TRANSIT CO.
(Effective June 13, 1938)

Bradford, Pa.	$1.80
Allegany, N. Y.	1.80

SOUTH PENN OIL CO.
(Effective June 13, 1938)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	$1.80
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.46
Pennsylvania Grade Oil in Eureka Pipe Line lines	1.40
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.30
Corning Grade Oil in Buckeye Pipe Line Co., line (June 16, 1938)	1.17

PENNZOIL CO.
(Effective June 13, 1938)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.73
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	1.72
Includes Tidioute district.	
Group C	1.71
Includes Turkey and Tidioute districts.	
Group D	1.70
includes Bear Creek and Porkey districts.	
Group E	1.68
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	

PURE OIL CO.
(Effective June 13, 1938)

Cabin Creek, W. Va.	$1.40
Bradford Hollow, W. Va.	1.40
Kelly Creek, W. Va.	1.40

Southwest Texas

(Effective January 28, 1937)

Pettus	$1.37
Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.09
Lytton Springs	1.12
Luling	1.00

Saxet and Taft take same gravity table as Gulf Coast.

Canada

Ontario (Sept. 9, 1933)*

Petrolia	$2.10
Oil Springs	2.17
TURNER VALLEY NAPHTHAS AND CRUDE OIL	
(January 5, 1938, by Imperial Oil, Ltd.)	
Clear naphtha and discolored naphtha, 65 gravity and higher	$2.14
Discolored naphtha and crude oil, 40-40.9 gravity	1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9 gravity	1.62
These prices f.o.b. producers field tankage.	

*Imperial Oil, Ltd.

Crude Oil Price Changes

Owensboro Oil Corp. (Standard of Ohio), effective August 8, announced a 15-cent reduction to $1.10 per barrel in the congested area of the Centralia, Illinois, field. The company also lifted the 55-bbl.-per-well daily maximum which it had placed on its purchases for several months. The company will continue to pay $1.25 per barrel for crude in the North Centralia area.

Simrall Corp., effective August 9, announced that it would pay the following prices for Michigan crude oil: Greendale, Porter, Crystal and Allegan, $1.20; Buckeye, Bentley, Edenville, Beaverton and Freeman, $1.09½; West Branch, Arenac, 90 cents. The only change involved in this schedule is an increase from 80 to 90 cents in West Branch crude oil.

New York Market

(Continued from Page 119)

market during the summer has contributed appreciably to disturbed motor fuel market conditions at Atlantic ports.

Most neutral and bright stock quotations in western Pennsylvania had fully realized the advance of a half to a cent per gallon inaugurated the preceding week by a few refiners. Inter-refinery trading was particularly active although jobber demand has also improved over conditions prevailing during most of the summer. Pennsylvania refiners reported motor fuel demand was unchanged.

Export conditions are practically unchanged from the preceding week. Loadings against contracts are satisfactory but open market trading is absent, according to Gulf Coast reports.

Light fuel oil demand is fair for this season in the New York area. Some sellers are reported making early fall deliveries at 6 to 7 cents per gallon with a few at fractions of a cent lower. Gulf Coast refiners have not altered their previous quotations. If the tanker rate increase is maintained or extended as some anticipate the prices in New York may move higher in the near future. The tankcar price advance of an eighth to a quarter of a cent per gallon instituted two weeks ago by Standard Oil Co. of New Jersey appears to have been equalled by most competitors.

Crude Prices by Gravities

	Oklahoma-Kansas	Oklahoma-Kansas	North and Central Texas	East Central Texas (Mexia district)	North Louisiana-Arkansas	Gray County, Texas	Hutchinson-Carson counties, Texas	Rodessa, Louisiana-Texas and Panola County, Texas	Conroe, Tomball, Raccoon Bend, (Deep) Satsuma	Gulf Coast	Gulf Coast	Lea County, N. Mex. West Texas except Pecos County	Mirando district, Texas	Marion County, Texas	Refugio, Greta, Saxet, Taft, Texas	Anahuac, Flour Bluff, Dickson, Turtle Bay	White Castle, Louisiana	Iowa, Louisiana	Cayuga, Texas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Bel. 18	....	....	....	....	....	....	....	....	....	$.95	....	....	....	....	....	....	....	$.90	....
18-18.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	....	.92	....
19-19.9	....	....	....	....	....	....	....	....	....	.95	....	....	....	....	....	....	$.94	.94	....
20-20.9	....	....	....	....	....	....	....	....	....	.95	$.95	....	$.96	....	$1.01	....	.96	.96	....
21-21.9	....	....	....	....	....	....	....	....	....	.98	.98	....	.98	....	1.03	....	.98	.98	....
22-22.9	....	....	....	....	....	....	....	....	....	1.01	1.01	....	1.00	....	1.05	....	1.01	1.01	....
23-23.9	....	....	....	....	....	....	....	....	....	1.04	1.04	....	1.02	....	1.07	....	1.04	1.04	....
24-24.9	....	....	....	....	....	....	....	....	....	1.07	1.07	....	1.04	....	1.09	....	1.07	1.07	....
Bel. 25	....	$.98	....	....	$.90	....	....	$.93	....	....	....	....	....	$.90	....	....	....	....	$.88
25-25.9	....	1.00	....	....	.92	....	....	.95	....	1.10	1.10	$.78	1.06	.92	1.11	....	1.10	1.10	.90
26-26.9	....	1.02	....	....	.94	....	....	.97	....	1.13	1.13	.80	1.08	.94	1.13	....	1.13	1.13	92
27-27.9	....	1.04	....	....	.96	....	....	.99	....	1.15	1.15	.82	1.10	.96	1.15	....	1.15	1.15	94
28-28.9	....	1.06	....	....	.98	....	....	1.01	....	1.17	1.17	.84	1.12	.98	1.17	....	1.17	1.17	96
Bel.29	$1.06	....	$.96	$1.03	....	....	....	....	$1.20	....	....	....	....	....	....	....	....	....	....
29-29.9	1.08	1.08	.98	1.05	1.00	....	....	1.03	1.22	1.19	1.19	.86	1.14	1.00	1.19	....	1.19	1.19	98
30-30.9	1.10	1.10	1.00	1.07	1.02	....	....	1.05	1.24	1.21	1.21	.88	1.16	1.02	1.21	$1.16	1.21	1.21	1.00
31-31.9	1.12	1.12	1.02	1.09	1.04	....	....	1.07	1.26	1.23	1.23	.90	1.18	1.04	1.23	1.18	1.23	1.23	1.02
32-32.9	1.14	1.14	1.04	1.11	1.06	....	....	1.09	1.28	1.25	1.25	.92	1.20	1.06	1.25	1.20	1.25	1.25	1.04
33-33.9	1.16	1.16	1.06	1.13	1.08	....	....	1.11	1.30	1.27	1.27	.94	1.22	1.08	1.27	1.22	1.27	1.27	1.06
34-34.9	1.18	1.18	1.08	1.15	1.10	....	....	1.13	1.32	1.29	1.29	.96	1.24	1.10	1.29	1.24	1.29	1.29	1.08
Bel. 35	....	....	....	....	....	$.96	$.91	....	....	....	....	....	....	....	....	....	....	....	....
35-35.9	1.20	1.20	1.10	1.17	1.12	.98	.93	1.15	1.34	....	1.31	.98	1.26	1.12	1.31	1.26	1.29	1.29	....
36-36.9	1.22	1.22	1.12	1.19	1.14	1.00	.95	1.17	1.36	....	1.33	1.00	1.28	1.14	1.33	1.28	1.29	1.29	....
37-37.9	1.24	1.24	1.14	1.21	1.16	1.02	.97	1.19	1.38	....	1.35	1.02	1.30	1.16	1.35	1.30	1.29	1.29	....
38-38.9	1.26	1.26	1.16	1.23	1.18	1.04	.99	1.21	1.40	....	1.37	1.04	1.32	1.18	1.37	1.32	1.29	1.29	....
39-39.9	1.28	1.28	1.18	1.25	1.20	1.06	1.01	1.23	1.42	....	1.39	1.06	1.34	1.20	1.39	1.34	1.29	1.29	....
40,over	1.30	1.30	1.20	1.27	1.22	1.08	1.03	1.25	1.44	....	1.41	1.08	1.36	1.22	1.41	1.36	1.29	1.29	....

Effective July 8, 1938, Standard Oil Co. of Louisiana posted prices in Buckner, Magnolia, and Village pools in Columbia County, Arkansas, as follows: Below 25 degrees 83 cents; 25-25.9 degrees 85 cents; with 2 cents added for each degree upward to and including 40 degrees and above at $1.15.

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Bay, Eason, El Dorado, Cities Service, Falcon, Globe, Gulf, Johnson, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.

Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.

Column 3—All purchasers.

Column 4—Humble Oil & Refining Co. and Sinclair Oil Purchasing Co

Columns 5, 6, 7 and 8—All companies. Effective July 8, by Standard Oil Co. of Louisiana, Buckner, Magnolia and Village, Arkansas, 7 cents per barrel less than prices in Column 5.

Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)

Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)

Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co. Column 12—All purchasers. Column 13—All purchasers (effective July 6, 1937). Column 14—Magnolia Petroleum Co. Column 15—Humble Oil & Refining Co. (effective July 6, 1937). Column 16—Humble Oil & Refining Co. Columns 17 and 18—Shell Petroleum Corp. Column 19—Tide Water Oil Co.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Aug. 6 Sales	Week ending Aug. 6 High	Week ending Aug. 6 Low	Week ending Aug. 6 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
78	55	1,600	75	70	72½	Amerada Corp	788,675	N.P.	50cQ	7-30-38	$2.00	114⅞	51½	125½	75
27⅝	17¾	8,000	25⅝	23⅞	24¼	Atlantic Refining	2,663,999	$25	25cQ	9-15-38	1.00	37	18	35⅛	26⅝
23⅜	12⅛	5,000	21¼	19⅞	21	Barber Asphalt Co.	390,223	$10	75c	12-16-37	1.00	43⅜	10⅛	38½	21
21⅜	16⅛	15,100	20⅛	19⅛	20⅛	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-38	1.00	35¼	10	28¼	14⅛
10¾	7	32,500	10⅝	10⅛	10¼	Consolidated Oil Corp.	13,915,167	N.P.	20cQ	8-15-38	.90	17⅞	7	17¼	11½
35⅜	21¼	9,600	35½	34½	35⅝	Continental Oil of Delaware	4,682,583	$5	25cQ	9-30-38	1.50	49	24	44⅞	28⅛
9¾	5	8,600	9¼	8⅝	9⅛	Houston Oil (new)	1,098,618	$25		10-17-30	....	17⅝	4¾	13⅞	6⅝
22⅝	12¼	4,900	19¾	19	19⅜	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-38	1.50	35⅝	14	30⅞	17¼
17¾	10⅝	500	16	15¾	15¾	Mission Corporation	1,382,945	$10	$1	6-29-38	1.25	34	15	29⅞	16⅝
23	14⅛	12,100	20½	18½	19⅝	National Supply	1,155,170	$10	$2 pf.‡	12-22-37	(‡)	41⅝	17⅝	75½	19⅞
14⅞	9	13,800	12⅛	11¼	11½	Ohio Oil Co.	6,563,377	N.P.	50c	12-15-37	1.00	22⅞	8	18	12⅛
15⅞	10¼	3,100	15	14	14¼	Pacific Western Oil	1,000,000	N.P.	75c	12-15-37	.75	29¾	11¾	23½	11¾
9¼	7	No sales	..	.	..	Pan American Pet. & Trans.	4.702.945	$5	$1 *	12-21-37	1.00	17⅛	7	20⅝	12¼
44¾	27¼	10,800	43⅝	40⅝	43¼	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-38	2.75	64	30⅛	52⅝	33⅛
25⅝	15	2,700	24½	23⅞	24⅝	Plymouth Oil Co.	1,029,800	$5	35cQ	6-30-38	1.65	29⅞	13	27⅜	11⅞
13½	8¼	18,000	12¼	11¾	12¼	Pure Oil Co.	3,285,120	N.P.	25c	12-1-37	.25	24⅜	8¾	27⅞	16
8⅞	5	39,500	8⅞	8⅜	8⅝	Richfield Oil Corp.	3,896,638	N.P.	25c	12-24-37	.25	6½	4⅛	..	..
27½	15½	3,100	24⅝	23⅛	24⅜	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-38	1.00	54⅛	16	44	30½
18⅜	10	3,400	17⅜	16¾	17⅜	Shell Union Oil	13,070,625	N.P.	35c	7-15-38	1.00	34¾	14⅞	28¼	14⅜
34¾	18½	4,600	30⅛	28½	30	Skelly Oil	1,003,949	$15	50c	6-25-38	1.50	60⅝	26½	47⅜	19½
16⅜	10⅜	39,500	15⅜	14⅞	15⅝	Socony-Vacuum	31,151,071	$15	25c	9-15-38	.80	23¼	13	17½	12½
34⅞	25⅛	14,000	33¼	31⅞	33¼	Standard Oil of California	13,014,754	N.P.	35cQ†	9-15-38	2.00	50	27⅛	47⅝	35
35½	24¾	14,200	33⅞	32¼	32½	Standard Oil (Indiana)	15,267,030	$25	25cQ	9-15-38	2.30	50	26½	48½	32¾
35½	22½	No sales	..	..	..	Standard Oil of Kansas	112,837	$10	$5	12-20-37	5.00	43	30⅝	31	25
58⅜	39¾	22,900	57⅞	56⅝	57¾	Standard Oil of New Jersey	26,224,767	$25	$1SA†	6-15-38	2.50	76	42	70⅜	51⅛
59	45	300	56¾	56	56½	Sun Oil	2,316,484	N.P.	25cQ	9-15-38	$1 & 8% Stk.	77½	44½	91	70
3⅞	1¾	40,900	4¼	3¾	3⅞	Superior Oil Corp.	1,388,079	$1		....		7¾	1½	6¾	3
49⅝	32⅝	20,900	49⅝	45⅞	48⅞	Texas Corp.	10,875,006	$25	50cQ	7-1-38	2.25	65⅛	34¾	55¼	28⅞
5¼	2⅝	7,300	5¼	4¾	4⅞	Texas Gulf Producing Co.	888,137	N.P.	10c	12-23-37	.10	9⅝	2	8⅞	4⅜
12½	7	15,100	12½	11¼	12¼	Texas Pacific Coal & Oil	888,237	$10	10c	9-1-38	.40	16⅝	5⅜	15¼	7½
15¾	10⅛	7,200	15⅛	14⅝	15⅛	Tide Water Associated	6,369,175	$10	25cQ	6-1-38	1.20	21⅝	13⅛	21⅜	14⅜
22¼	17⅛	2,600	21⅝	21¼	21⅜	Union Oil of California	4,666,270	$25	30cQ	8-10-38	1.40	28¼	17½	28½	20¾
23½	20	700	22⅛	21¼	22⅛	Union Tank Car Co.	1,200,000	N.P.	30cQ	9-1-38	1.60	31½	22	31⅝	22⅝
3½	1⅝	8,300	3½	2⅞	3½	Wilcox Oil & Gas	506,522	$5	..	5-10-28	..	6¼	1¾	5¼	2¾

*Payable in 3½% notes. †Includes extras. ‡One-tenth share $2 preferred stock

New York Curb Exchange

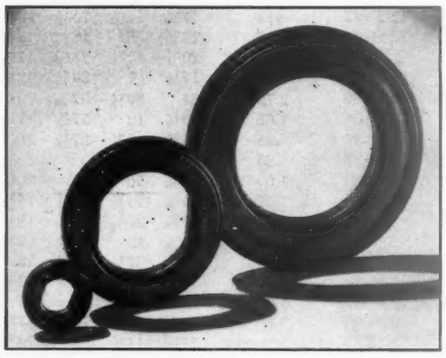
1938 High	1938 Low	Week ending Aug. 6 Sales	Week ending Aug. 6 High	Week ending Aug. 6 Low	Week ending Aug. 6 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1937	1937 High	1937 Low	1936 High	1936 Low
11	5	2,000	10¼	9½	10	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.40	10	6⅝	..	..
10¼	5⅛	1,400	8¼	7⅜	8⅛	Bridgeport Machine Co.	260.000	N.P.	1.25	12-30-37	$2.00	21⅝	7	21	13¼
39	29	400	31½	29	29¼	Buckeye Pipe Line Co.	200,000	$50	25c	9-15-38	3.75	51½	36	50	39¾
113	97	50	113	113	113	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-27-38	7.00	123	95½	124¾	105
11	7¾	3,200	9⅝	8¾	8⅞	Cities Service (new)	3,714,317	$10	....	6-1-32	....	5⅜	1½	7⅜	3
2⅜	¾	9,600	1⅞	1¼	1⅝	Cosden Petroleum	462,551	$1	.....	.....	.....	5½	1½	4½	1½
27½	17½	3,400	23¾	23	23½	Creole Petroleum	6,975,383	$5	50cSA†	6 10-38	1.00	38¾	20¼	39	19⅞
9⅞	5½	1,900	9⅞	9⅜	9⅝	Darby Petroleum	351,390	$5	25cSA	7-15-38	.50	18⅝	6½	18⅛	9
3½	2	No sales	..	..	..	Derby Oil & Refining	263,162	N.P.			....	8⅜	2¼	6¾	1⅞
31	22	No sales	..	..	..	Eureka Pipe Line	50,000	$50	50c	8-1-38	4.00	47½	24½	47½	38⅛
46⅞	33	4,700	46¾	45⅛	46¾	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-38	1.00	63½	33	59	36
72⅝	56	1,900	71	70	70	Humble Oil & Refining	8,987,840	N.P.	37½c	7-1-38	2.00	87	54⅞	80	57
19½	15	3,600	17⅛	17	17	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-38	1.25	24¼	14½	24½	19¾
9¼	6⅝	700	9⅜	9	9⅜	Indiana Pipe Line	300,000	$10	30c	5-14-38	.80	15	5⅞	9¾	5½
31¼	23	1,300	26¼	26	26¼	International Petroleum	14,324,088	N.P.	$1.25†‡	6-1-38	2.50	39½	23½	39⅝	32⅝
5	3	200	3⅞	3⅝	3⅝	Kirby Petroleum Co.	500.000	$1	10c	4-15-38	....	8¾	2⅜	5⅜	2⅝
25⅛	15⅝	2,400	23⅛	22½	23⅛	Lion Oil Refining	434,820	N.P.	25cQ	7-25-38	1.50	34	12½	17⅞	7⅜
10¼	6⅝	1,300	10	9¾	9⅞	Lone Star Gas	5,533,747	N.P.	20c	8-20-38	.60	14¼	5¼	14¼	9⅞
9⅜	6½	1,800	8¾	8⅛	8⅛	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	9-15-38	.50	15¼	6¾	15⅜	9⅞
8⅞	6⅜	500	8⅞	8	8⅞	Midwest Oil Co.	998,444	$10	50c	6-15-38	1.00	14⅝	6¼	..	..
5⅜	4½	600	5⅝	5⅜	5½	Mountain Producers	1,593,584	$10	30cSA	6-15-38	.60	7⅞	4½	8⅜	5
14⅝	11¾	2,100	12¼	11¾	12	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-38	1.00	19½	12	23	17⅝
9¼	7¼	100	7¾	7¾	7¾	National Transit	509,000	$12.50	35cSA	6-15-38	1.00	12½	7¼	15¾	9¼
2⅝	1½	500	2⅛	2	2	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	....	5	1⅛	6⅝	1⅝
4½	4	No sales	..	..	..	New York Transit	100,000	$5	15c	4-15-38	1.00	5⅜	3⅞	6¼	4¼
6	4	No sales	..	.	..	Northern Pipe Line	120,000	$10	20c	6-1-38	1.00	12¾	5¾	9¾	4⅞
7⅜	3¾	7,100	5⅛	4¾	4⅞	Pantepec Oil	2.441,142	$1	....	.....	....	9⅝	2¾	10⅛	3¼
3½	1⅝	100	2⅞	2⅞	2⅞	Root Petroleum Co.	336.045	$1	25c	2-1-37	.25	13¾	2	19¼	4½
4	2⅛	500	3¼	3⅛	3¼	Ryan Consolidated	296.931	N.P.		.....	....	6½	2¼	4¾	1⅞
5⅜	3⅝	100	4	4	4	Southern Pipe Line	100.000	$10	15cSA	3-1-38	.45	7¼	3⅞	7⅞	3¼
39	28¾	1,400	37¼	36¼	37¼	South Penn Oil	1.000,000	$25	50cQ†	6-30-38	3.65	56	35	44	32½
22¼	19	No sales	..	..	..	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-38	2.00	42	20	60	44
18¾	15	3,700	18¼	17⅝	17⅝	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-38	1.50	21⅛	14¾	23⅜	17⅛
7½	6⅛	No sales	..	..	..	Standard Oil of Nebraska	166,403	$25	25c	3-29-37	.25	13¾	8	14⅝	11
22¾	16¼	700	22	21⅜	22	Standard Oil of Ohio	753,740	$25	25c	6-15-38	1.50	45	16	40	21¾
3¼	2⅛	4,200	3	2¾	3	Sunray Oil	2.006,176	$1	10c	12-24-37	.25	4⅞	2	5	2⅝
5	3½	400	4¾	4¾	4¾	Texon Oil & Land	936,024	$2	15cQ	6-30-38	.45	7⅝	2	9¾	5⅜
7⅜	4¼	200	6⅝	6⅝	6⅝	Transwestern Oil Co.	750,000	$10			....	13⅞	4⅝	..	..
5¼	2¾	....	4¼	3⅞	4¼	United Gas Corp.	7,818,959	$1	....	.....	.....	13⅝	3	10¾	4

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock.

New or Improved Equipment

Valve-Disc Offered by Goetze Is Designed for Universal Use

Goetze Gasket & Packing Co., Inc., New Brunswick, N. J., has perfected what it describes as "a truly universal or all-purpose disc," recommended for handling air, gas, steam and liquids at any temperatures or pressures, for acids, alkalis or solvents, in fact for any service in which a globe valve can be used.



This valve-disc is of laminated construction, built up of alternating layers of asbestos and metal completely encased in a two-piece shell of copper, monel or other alloy metal. The shell protects the laminated parts. It affords flat seating surfaces, both top and bottom, and allows the upper ring freedom of movement under compression.

Discs are made in sizes for quarter-inch to 12-inch valves, with round or oblong holes. They are said to stand up well in all services and to minimize the need for replacements. The manufacturer says this all-purpose disc can be substituted for the different types now called for.

Wheatley Starts World Tour

Frank Wheatley, president of Wheatley Bros. Pump & Valve Manufacturers, Tulsa, has started a four months' business and pleasure tour that is planned to carry him through the most important oil fields of the world. He will visit J. J. Roos and T. S. Simpson, both in Sumatra, Dutch East Indies. While in the oil fields he will take photographs of various Wheatley products in operation. En route home he will visit D. E. Stines, of London, England.

Bulletins, Booklets and Other Literature for the Trade

Part 2 of the paper by C. H. M. Roberts and R. W. Stenzel on "Determination of Salts in Crude Oils" appears in the latest issue of the Electric Dehydrator, published by Petroleum Rectifying Co. of California, Los Angeles.

Reeves Pulley Co., Columbus, Ind., has issued a 124-page two-color catalog covering the complete line of Reeves variable-speed control equipment. This is the first time that all three Reeves speed-control units—variable-speed transmission, Varispeed motor pulley, and Motodrive—have been included in one book.

A modern diesel engine, the Type RHB-100, is described and illustrated in bulletin 769, obtainable from Chicago Pneumatic Tool Co., 6 East Forty-fourth Street, New York.

The Gumbo Buster three-speed transmission, which provides any drilling speed desired, receives special attention in the July number of the Bridgeport Bulletin, published by Bridgeport Machine Co., Wichita, Kans.

Bulletin 31, describing and illustrating the Bovaird grip tubing-spider, is being mailed on application by the Bovaird Supply Co., Tulsa.

A bulletin ready for distribution by Oil Well Supply Co. provides information about the "Oilwell" SC-27-H and Sc-35 pumping units.

The newest number of the Neoprene Notebook, published by the Rubber Chemicals Division of E. I. Du Pont de Nemours & Co., Wilmington, Del., gives facts about uses of Neoprene in the oil industry.

An interesting article on chrome-molybdenum steels in drill-collars appears in the current number of the Moly Matrix, published by Climax Molybdenum Co., 500 Fifth Avenue, New York.

A 28-page booklet prepared by the Lehigh Safety Shoe Co., Inc., Allentown, Pa., presents interesting cases in which safety shoes have protected the wearer from injury in accidents. It is called a "Handbook of Facts for the Safety Engineer."

Yarway steam plane equipment is the subject of a 12-page catalog which Yarnall-Waring Co., Chestnut Hill, Philadelphia, Pa., has ready for distribution.

A branch of the Continental Supply Co. has been opened at St. Elmo, Ill., supervised by J. B. Sparks, formerly store manager at McPherson, Kans.

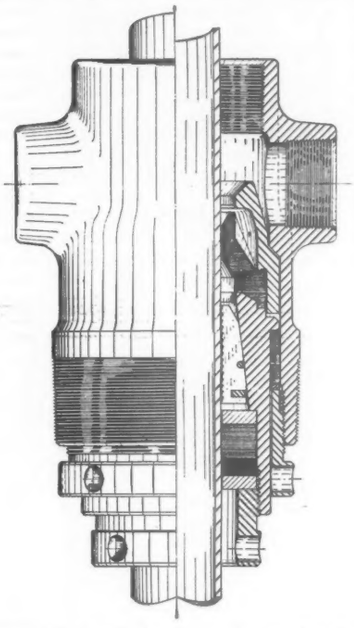
Credit Group Formed

A complete credit service has been conceived by a number of representative oil field manufacturers, service companies, jobbers, and supply houses in the Houston, Tex., trade territory. This thought was presented to the Houston Association of Credit Men, and after a careful survey, they have given their best efforts to the problem of organizing this industry. The Oil Field Division now numbers a membership of 25, holding scheduled meetings each two weeks, and the membership reports satisfactory progress. The sponsors believe this organization has a place in this field and conceivably may hope to embrace support in the Gulf Coast and Mid-Continent areas.

W. M. Cooney of the Baker Oil Tools, Inc., is chairman, and G. B. Coleman of the Bowen Co. of Texas is vice chairman. These officers have caused contact to be made with a number of firms in six states, as they are convinced the need for credit service must be keenly felt elsewhere as in the Gulf area. The oil industry has had a like service established throughout the West Coast trade territory for some 10 years.

Permits Raising and Lowering of Tubing Under Pressure

The Type OH-1 stripper tubing-head, which permits raising and lowering of tubing under



pressure has been placed on the market by National Supply Co., Toledo, Ohio. The stripper rubber is located at the lower end of the spider. It automatically seals off around the tubing, being urged into engagement with the pipe by pressure from the well. The sealing effect is entirely automatic and is independent of endwise pressure on the rubber. Being unconfined, the rubber is free to stretch, which reduces the likelihood of damange from sharp couplings. Radial ribs stiffen the rubber so that it will withstand high pressures. These ribs do not materially affect the flexibility and permit the rubber to stretch freely around couplings.

The lower guide, an exclusive National feature, centers the tubing couplings as the tubing is raised. The tubing couplings are prevented from pressing against the lip, greatly lessening the danger of torn rubbers while raising the tubing. All joints are packed off with Duprene packing. The packing rings are relatively narrow and can be sufficiently compressed by screwed glands to withstand high pressure. The tubing is supported on slips. This feature makes the head suitable for use on wells which have tubing packers. All bodies have emergency threads at the upper end, which permit attaching blowout preventers.

Viles Chosen Chairman of Buda

At the July meeting of the board of directors of the Buda Co., Harvey, Ill., L. M. Viles, president for over 20 years, was elected chairman of the board. J. S. Dempsey, for many years secretary, treasurer, and vice president, was elected president to succeed Mr. Viles. At the same time, F. E. Place, who has been associated with Buda since 1908, retired as senior vice president. An executive committee, consisting of Mr. Dempsey and two operating vice presidents, R. K. Mangan and E. D. Conant, will direct the affairs of the company.

Spirotallic Gasket Expands and Contracts as Space Changes

To meet service conditions on modern power-plant equipment operating at high pressures, Johns-Manville has developed a new type of gasket constructed of preformed plies of asbestos and cold-rolled, cadmium-plated steel. This Spirotallic

gasket is for sealing boiler manholes, handholes and tube plates. The material is spirally wound in such a manner that the asbestos serves to seat the adjacent interlocking metal plies. As soon as compression is encountered the strong, rigid edges of the plies meet the bearing surfaces of the manhole, handhole or tube plate to form a series of metal barriers that provide a tight and effective seal against extreme pressures and high-temperature conditions.

An outstanding feature of Spirotallic gaskets is their ability to contract under flange pressure and then to rebound when the pressure is removed. This resiliency is obtained largely by the central crimp of the interlocking plies, which provides a constant spring action that enables the gasket to contract and expand automatically as the gasketing space varies in service. Spirotallic manhole and handhole gaskets are available in standard sizes in both round and oval form. The sizes of Spirotallic tube plate gaskets vary according to the boiler.

Axelson Ads Win Distinction

The voting of first award to the Axelson Manufacturing Co.'s Life series advertisements and direct-mail pieces by the Pacific Advertising Clubs Association convention in Los Angeles brings further recognition to Axelson industrial display advertising. The P.A.C.A. convention, consisting of advertising clubs from Seattle, Wash., to San Diego, Calif., drew an attendance of some 600. Displays were entered in various competitive events by many of the national, regional, and industrial advertisers. Advertising for Axelson is handled by the McCarty Co.

Here and There With Men Who Manufacture Equipment

W. D. Moore has been made manager of the W-K-M well processing division of W-K-M Co., Houston, Tex. Mr. Moore is the inventor of various devices commonly used in drilling and production work.

Johnston Oil Field Service Corp. has completed its building at 5702 Navigation Boulevard, Houston, Tex., and has transferred its formation and water shutoff testing operations from former quarters in the M. & M. Building.

A. C. Stensgaard, salesman for the Bovaird Supply Co., Tulsa, has returned from a two weeks' business trip through Oklahoma, Texas and New Mexico. Mr. Stensgaard made this trip in connection with the Union automatic gas separator, distributed by Bovaird.

Mid-Continent Supply Co., with general offices in the Mid-Continent Building, Fort Worth, Tex., has opened its new store at Magnolia, Ark., with C. M. Fleeman as manager under the supervision of S. W. Backus, district manager at Shreveport, La.

Raymond M. Dennis, superintendent of flanging for Lukens Steel Co., Coatesville, Pa., has been appointed general manager of the flanging department in charge of estimating, sales and production on flanging work.

C. W. Crumb is now central division sales manager for Oliver United Filters, Inc., with headquarters at 221 North La Salle Street, Chicago. Mr. Crumb has been with Oliver United for the past 11 years as sales engineer.

Two District Representatives Appointed by S. M. Jones

Appointment of two district representatives, J. W. Lowes, Jr., in Dallas, Tex., and Ross J. Lyons in West Texas, is announced by the S. M. Jones Co., Toledo, Ohio.

Mr. Lowes received his technical training at Carnegie Institute of Technology, and joined Jones's field engineering department. He was made district representative in western Kansas and then pro-

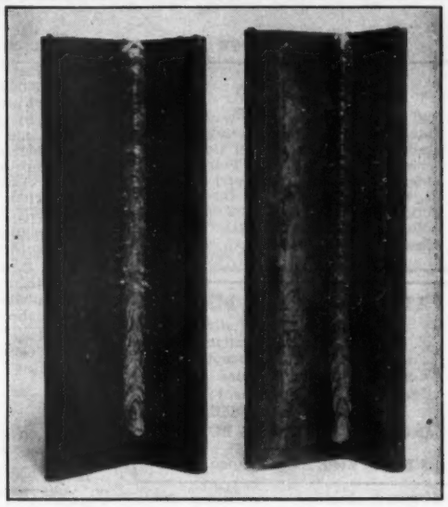
J. W. LOWES ROSS J. LYONS

moted to district representative in charge of the Tulsa territory. His headquarters are in the Dallas National Bank Building.

After attending the engineering school at the University of Oklahoma, Mr. Lyons became material inspector with the U. S. Engineers and then entered the field engineering department of the Jones company where he has had experience in both field practice and sucker-rod engineering work. His headquarters will be in Midland, Tex.

Cleaning After Welding Job Is Simplified by Spatter Film

A compound which is said to reduce cleaning time after welding by 20 to 60 per cent is announced by the Lincoln Electric Co., Cleveland.



Ohio, manufacturer of arc welding equipment and electrodes. This compound, "Spatter Film," has been developed by Lincoln engineers to increase the economy of electric welding as a process of manufacture and fabrication. By reducing the tendency of spatter to adhere tightly, thus facilitating its removal, Spatter Film makes fabrication by arc welding still more economical. The savings resulting from use of the compound will be particularly apparent in work where painting and finishing are essential.

Spatter Film is soluble in water. It is nonflammable and contains no free alkali to injure hands or harm paint. It is easy to apply by means of an ordinary paint brush. Only enough of the film need be applied to cover the work adjacent to the seam or joint. A gallon of Spatter Film will cover approximately 50,000 square inches of surface. The left-hand sample in the illustration was made without the film, and the right-hand was made with it. The film is removed by wiping with a damp cloth. (Note left edge of the sample at right.)

Dressers Join New Line

For a new 16-inch OD natural-gas line between Ventura, Iowa, and Albert Lea, Minn., being constructed by Northern Natural Gas Co., 2,150 Dresser couplings are being supplied by the S. R. Dresser Manufacturing Co., Bradford, Pa. Dresser long sleeves also have been ordered.

BUDA NOW OCCUPYING NEW QUARTERS IN HOUSTON

Buda Engine & Equipment Co. has moved into new offices and shop at 15 Kendall Street, Houston, headquarters for the company in Texas, Louisiana, and New Mexico. Here are kept a complete stock of Buda repair parts, general engine accessories, V belts, etc. The shop rooms of the new building are equipped with facilities for complete engine rebuilding.

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Patent Law Offices
418 Bowen Bldg. Washington, D. C.

PATENTS obtained — inventions developed — working drawings — engineering advice. Mid-Continent Engineering Company, E. H. Waldrop, Shawnee, Okla

Leases and Drilling Blocks

SECURITY ABSTRACT COMPANY
El Dorado, Union County, Arkansas. Magnolia, Columbia County, Arkansas. Fee, Lease and Mineral ownership on short notice. Ownership maps.

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up. Owners—Address Attorney, Box 1122, Little Rock, Ark.

DEALERS and SALESMEN
Don't wait! Write today for our lease offer. Others like yourself are making money selling these leases —you can do the same. Complete selling story, and elaborate maps furnished free. Write quick for details.
RUBUSH and COMPANY
1307 Pacific Ave., Dallas, Texas

WHY PAY big prices for Oil Leases when potential land in fee, all royalty, can be bought for $5. Investigate. J. N. SWANSON, Sayre, Oklahoma.

50,000 A. in and near Ill. production area. Consider drilling deal. Illinois Minerals Co., Cairo, Illinois.

BLOCK of leases in Ark. surrounded by four drilling wells and major Co.'s paying rentals and taking titles. Desire drilling for acreage. Address Box J-490, The Oil and Gas Journal, Tulsa, Okla.

FOR LEASE for oil and gas purposes. 240 A. land in Anderson County, Kansas. Oil was drilled in at a shallow depth with good showing of gas. W. M. DARY, 224 E. 16th St., Long Beach, California.

PRODUCTION WANTED
Partially developed lease entirely proven producing depth 2,000 feet or less, must be in Texas, all data will be returned after inspection, personal purchase no brokering. Submit price. P. O. Box 2202, Fort Worth, Texas.

DRILLING deals wanted 50,000 acres Southern Illinois in and around production area. Elmer Gant, Anna, Illinois.

FOR SALE—75% interest in 840 acres semi-proven Oil and Gas leases near Celina, Tenn. Within one mile of proven acreage. Drilling rates reasonable. Frank H. Blum, Agent, 1205 Union Trust Bldg., Cincinnati, Ohio.

FOR SALE: Two 40 ac. N. M. oil leases. San Juan Co., Sec. 16-23-11W. Eddy Co., Sec. 31-16-28E. Write, Presley Gule, 1732 Whitley, Hollywood, California.

Leases and Drilling Blocks

PANOLA COUNTY, EAST TEXAS, BLOCK 5,000 acres. Situated on flank of Sabine Uplift. Located on structure mapped by recognized geologist. Would consider sale or drilling arrangement with responsible parties. The merits of this acreage are worthy of your closest investigation. Address Box J-473, The Oil and Gas Journal, Tulsa, Oklahoma.

ATTENTION DEALERS: Have good leases around drilling wells in oil territory for sale at right prices. Sale of leases exempt by S. E. C. Will furnish maps, geological report, etc., to active dealers. Write or wire W. P. Spielberger & Co., Inc., P. O. Box 1982, Oklahoma City, Okla.

OIL Lease, 240 acres, Sec. 64, La Chuse ranch, McMullen Co., Tex. Reasonable offer accepted. Owner, J. Manz, Andale, Kansas.

N. MEX. weekly Oil Scout Report up to minute locations and developments. Send $1.00 for 2 months' service. Roy G. Barton, Hobbs, New Mexico.

100%, 200%, 300% per annum possible on your investment. 80 acres offsets a million shallow gasser. On pipe line. I furnish lease, drill well, $850.00. H. B. Buddenborg, Osawatomie, Kansas.

WILL sell ⅝ interest in 800 acre block on structure in Clinton County, Illinois, or give acreage for Benoist test. Write Box 294, Carlyle, Illinois.

WANTED: 6,000-foot test well drilled this fall. Give full information in regard to equipment and responsibility in first letter. Box 196, Sidney, Nebraska.

WILL lease to responsible party 160 acres in 33-18-9, Creek County, or 200 acres 5 and 6-1N-2E, Murray County, Oklahoma. W. L. Suiter, 1016, Baltimore, Kansas City, Missouri.

LEASES-ROYALTIES, South Louisiana 20 ac. up; $1.50 acre and up. Land Owner. John Derryberry, DeRidder, Louisiana.

NOTICE

1,500 acres, 5 yr. leases—Northern Clay County, Illinois—5-N, 5-E. Will turn this for small bonus and a drilling contract. Leo H. Graves, Farina, Illinois.

BLOCK of 3000 acres adjoining noted Fairport oil field in Russell County, Kansas, for lease, with drilling agreement or will sell this highly improved land for $25.00 per acre with one-fourth of mineral rights reserved. George H. Gutru, c/o Hotel O'Brien, Russell, Kansas.

800 ACRE block. Edging Beecher City Pool. Four yr. lease. Rental paid for yr. Price $8,000. Elton Beck, Herrick, Ill.

Leases and Drilling Blocks

OPPORTUNITY for lime production at 950 ft. 40 acre lease ¼ mile of drilling well $300, 40 acres ½ mile of well $150. Good geology. Also 40 acre offset to two producing wells 730 ft. $400. Particulars Box 10, Kincaid, Kansas.

BREWSTER COUNTY—TEXAS
Offer small tracts of land in fee all minerals included CHEAP. Write A. C. Smith. P. O. 200, San Antonio, Texas.

Plans and Estimates

Pipe Line, Roads, and Improvements. SURVEYS: Property—Contour—Construction. Legal Land Descriptions—Rights of Way. Valuation Maps. L. H. GOWDY, Civil Engr., 1226 So. Orange Dr., Los Angeles. WE. 5895.

For Sale—Miscellaneous

FOR SALE—A little ship, built to go anywhere—length 37 ft.—width 11½ ft. —draft 4 ft. 9 in.—loaded for cruising—Ketch rig—50 H.P. gas engine—Delco light plant—very heavy construction throughout. Inquire 308 Nixon Building, Corpus Christi, Texas.

PETRIFIED wood and many other rock formations for curio collections, rock gardens, fish ponds, etc. Ten cents and up plus postage. Gathered and sold by boys. Can probably furnish what you need.
REEVES BROS.
P. O. Box 475,
McLean, Texas.

Ranches and Farm Lands

920 ACRES grazing land, some improvements, on West Plain's Oil Structure in Western Logan County, Colorado. Price $3.00 per acre with 1% of the oil. Easy terms. Write Box 196, Sidney, Nebraska.

CULBERSON COUNTY, WEST TEXAS, 25,000 acre solid ranch. On largest known structure flanking Permian basin. Tremendous drainage and closure. Mapped by recognized geologists. Unleased, undrilled. Majors hold large blocks in area. Well improved and watered, open grama grass plateau, 6,000 elevation, blacktail deer. Will graze 1,200 cows, or 6,000 sheep. Grass lease nets 3½%. Fee price $5. M. E. Bogle, 105 Routt St., San Antonio, Tex.

KIMBLE COUNTY RANCH: 2,000 acres, mile from new oil well, three more drilling. Paved highway, three miles town, river front, pecan bottom, 30 acres irrigable alfalfa land. Three houses, fine fences, several pastures for goats, sheep, cattle or hogs. Deer, turkey, fish. Forced sale $10. Worth $15. Act quick.
M. E. BOGLE
105 Routt St. San Antonio, Texas.

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ANDREW J. BARRETT
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Tulsa, Oklahoma.

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Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

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PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Hobbs, New Mexico.

WRITE US TODAY
For our offering of producing and nonproducing oil royalties.
RUBUSH and COMPANY
1307 Pacific Ave. Dallas, Texas.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building. Detroit, Michigan.

INQUIRIES SOLICITED FROM CORPORATIONS INTERESTED IN RAISING CAPITAL THROUGH THE MARKETING OF CORPORATE SECURITIES.
BROWN HARTWELL COMPANY
110 EAST 42 ST., NEW YORK

For Sale—Maps

1938 REVISED EDITION
MAP of State of Texas, Eastern N. M., parts of Southern Okla., SW Ark. and La., shows Oil and Gas Fields in color, Counties, County Seats, elevations, coordinated alphabetical index of counties and fields.
Price $1.00 postpaid

Write for descriptive folder of Oilfield and County Ownership Maps.
ZINGERY OIL MAP COMPANY
Main Building Fort Worth

1938 MAP OF MID-CONTINENT STATES
including Oklahoma, Kansas, Texas, New Mexico, Colorado, Arkansas, Louisiana, Mississippi, Alabama, Missouri, Southern Illinois and Indiana, Western Kentucky and Tennessee. Shows Counties, Countyseats, Oil and Gas Fields and Principal Geologic Features of entire area.
Price $1.00 Postpaid.
THE KELLY MAP COMPANY
P. O. Box 1773 Tulsa, Oklahoma.

Mailing Lists

ROYALTY Lists. Unit Owners Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*
1 Inch	*13 times*	*4.50 per inch*
1 Inch	*26 times*	*4.00 per inch*
1 Inch	*52 times*	*3.50 per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma